



<http://researchspace.auckland.ac.nz>

ResearchSpace@Auckland

Copyright Statement

The digital copy of this thesis is protected by the Copyright Act 1994 (New Zealand).

This thesis may be consulted by you, provided you comply with the provisions of the Act and the following conditions of use:

- Any use you make of these documents or images must be for research or private study purposes only, and you may not make them available to any other person.
- Authors control the copyright of their thesis. You will recognise the author's right to be identified as the author of this thesis, and due acknowledgement will be made to the author where appropriate.
- You will obtain the author's permission before publishing any material from their thesis.

To request permissions please use the Feedback form on our webpage.

<http://researchspace.auckland.ac.nz/feedback>

General copyright and disclaimer

In addition to the above conditions, authors give their consent for the digital copy of their work to be used subject to the conditions specified on the [Library Thesis Consent Form](#) and [Deposit Licence](#).

Note : Masters Theses

The digital copy of a masters thesis is as submitted for examination and contains no corrections. The print copy, usually available in the University Library, may contain corrections made by hand, which have been requested by the supervisor.

**Screening for substance use problems
in New Zealand adolescents:
Applications in comorbidity and treatment**

Grant Christie

A thesis submitted in partial fulfilment for the requirements for the degree of
Doctor of Medicine (MD) - The University of Auckland 2011

Abstract

Adolescent mental health workers are poor at identifying and treating co-existing alcohol and other drug (AOD) disorder. Effective AOD screening can assist with identification, assessment and motivational enhancement, and lead on to treatment interventions for young people in a range of health services.

I describe the reported prevalence of co-existing AOD and mental health disorder in young people attending AOD services via systematic review. This is supported by a naturalistic study that directly compared self-reported problems across ten domains of psychosocial functioning in a cross-section of 131 adolescents attending two services. I found that addiction service adolescents reported a similar or higher complexity of morbidity to adolescents attending mental health services.

Problems encountered using established AOD instruments motivated the development and evaluation of the Substances and Choices Scale (SACS), an adolescent AOD self-report instrument designed in a similar format to the Strengths and Difficulties Questionnaire (SDQ). A literature review, extensive consultation, and discriminant analysis on a pilot sample ($n = 61$) of adolescents informed the development of the SACS. The psychometric properties of the SACS were tested in clinical and community samples of 651 adolescents. Reliability of the SACS was sound with coefficient alpha 0.91 and 3 week test-retest correlation 0.88. Congruent validity coefficients of the SACS versus the CRAFFT and the POSIT were 0.79 and 0.91 respectively. A ROC curve demonstrated the SACS as having a predictive value of 92%. Repeat SACS scores in a treatment sample indicated the SACS had utility in measuring change. Feedback from participants indicated that the SACS was highly acceptable.

A further project evaluates the utility and acceptability of a brief intervention training package utilizing the SACS delivered to child and adolescent mental health workers. 37 participants completed a 55-item questionnaire and focus groups. We found the training led to improvements in attitudes, skills and knowledge although low response rates at follow-up limited analysis of behaviour change.

Finally the implications of the findings in this thesis are discussed with reference to current literature, including future directions for research and treatment of addiction in young people utilising the SACS and brief interventions.

Acknowledgements

The work incorporated in this thesis would not have been possible without the assistance of the staff and clients of the Auckland 'Altered High' Youth Service, Community Alcohol and Drug Services (CADS), Waitemata DHB, which has been my workplace throughout. You are all fantastic and I could not have done it without you.

Thanks to the young people of Auckland, in particular those attending the three schools in which the SACS project was undertaken, for their support of my research.

I am lucky to have worked with a number of outstanding researchers, clinical and academic staff while carrying out the research incorporated in this thesis and I am grateful for their hard work and wisdom. In particular I would like to thank the staff from CRRC and the University of Auckland including Amanda Wheeler, Reginald Marsh Stella Black, Rachael Butler, Christel Le Brun, Ata Samu, Tamsailau Suaalii-Sauni, Stella Black, Lucy Dunbar, Puti Wilson and Wayne Miles.

In addition I am grateful for the assistance of staff and clients from other CADS services and from Waitemata DHB and Waikato DHB Child and Adolescent Mental Health Services at different periods.

The testing of the Substances and Choices Scale was made possible because of a generous grant from the Alcohol Advisory Council (ALAC) and they have continued their support of this work via the ongoing funding and sponsorship of the www.sacsinfo.com website.

The Werry Centre for Child and Adolescent Mental Health supported the development and evaluation of the SACS Brief Intervention through an unrestricted research grant.

Thanks to my supervisors Sally Merry and Janie Sheridan of the University of Auckland.

Anna, Izzy, Josie and Max, you are my inspiration. Thank you guys.

~ This thesis is dedicated to Lorraine and Rick ~

Table of Contents

1. INTRODUCTION	1
1.1. HOW DO SERVICES PROVIDE AOD TREATMENT?	1
1.2. PROMOTING AOD SCREENING AND BRIEF INTERVENTIONS IN HEALTH SERVICES	3
1.3. OVERVIEW OF THE THESIS	5
2. THE PREVALENCE OF MENTAL HEALTH DISORDER IN YOUNG PEOPLE ATTENDING OUTPATIENT ADDICTION SERVICES	8
2.1 INTRODUCTION	8
2.2. DESCRIPTIVE REVIEW OF COMORBIDITY IN YOUTH COMMUNITY AND TREATMENT POPULATIONS	8
2.3. SYSTEMATIC REVIEW OF THE PREVALENCE OF PSYCHIATRIC COMORBIDITY IN YOUNG PEOPLE ATTENDING OUTPATIENT AOD TREATMENT SERVICES	16
2.4. METHODS	16
2.5. RESULTS	18
2.6. DISCUSSION	24
2.7. CONCLUSIONS	30
3. COMPARING SELF-REPORTED MORBIDITY IN CAMHS AND AOD SERVICES	31
3.1. INTRODUCTION	31
3.2. METHODS	32
3.3. RESULTS	34
3.4. DISCUSSION	37
3.5. CONCLUSIONS	40
4. THE SUBSTANCES AND CHOICES SCALE – PRELIMINARY INSTRUMENT DESIGN	41
4.1. INTRODUCTION	41
4.2. LIMITATIONS OF YOUTH AOD INSTRUMENTS AVAILABLE AT THE TIME	42
4.3. ROUTINE OUTCOME MEASUREMENT IN MENTAL HEALTH AND ADDICTION SERVICES	44
4.4. ATTRIBUTES OF AN EFFECTIVE YOUTH AOD INSTRUMENT	45
4.5. MEASURING AOD USE PROBLEMS IN YOUNG PEOPLE	46
4.6. PROPOSED CONTENT AND STRUCTURE OF A PRELIMINARY SACS INSTRUMENT	48
4.7 THE PRELIMINARY SACS INSTRUMENT	51
4.8. CONCLUSIONS	52
5. THE SACS - CONSULTATION WITH CLINICIANS AND YOUNG PEOPLE	55
5.1. INTRODUCTION	55
5.2. METHODS	56
5.3. RESULTS	62
5.4 CHANGES TO THE SACS BASED ON FEEDBACK FROM THE CONSULTATION STAGE	67
5.5. CONCLUSIONS	70

<u>6. THE SACS - PILOTING THE INSTRUMENT</u>	<u>71</u>
6.1. INTRODUCTION	71
6.2. METHODS	72
6.3. RESULTS	77
6.4. DISCUSSION	80
6.5. CONCLUSIONS	83
<u>7. PSYCHOMETRIC TESTING OF THE SACS INSTRUMENT</u>	<u>85</u>
7.1. INTRODUCTION	85
7.2. METHODS	86
7.3. RESULTS	94
7.4. DISCUSSION	111
7.5. CONCLUSIONS	115
<u>8. ATTITUDES, SKILLS AND KNOWLEDGE CHANGE IN CAMHS WORKERS FOLLOWING AOD SCREENING AND BRIEF INTERVENTION TRAINING</u>	<u>117</u>
8.1. INTRODUCTION	117
8.2. METHOD	119
8.3. RESULTS	122
8.4. DISCUSSION	135
8.5. CONCLUSIONS	138
<u>9. DISCUSSION AND FUTURE DIRECTIONS</u>	<u>139</u>
9.1. COMORBIDITY AND SERVICE DELIVERY	140
9.2. ENGAGEMENT AND ACCESS TO SERVICES	145
9.3. THE SACS AND SCREENING IN NEW ZEALAND YOUNG PEOPLE	147
9.4. THE SACS, OUTCOME MEASUREMENT AND BRIEF INTERVENTIONS	149
9.5. FUTURE DIRECTIONS	151
9.6. CONCLUSIONS	155
<u>10. REFERENCES</u>	<u>156</u>
<u>11. APPENDICES</u>	<u>179</u>

List of tables

Table 1: Systematic review search strategy	16
Table 2: Sample and methodologies of studies examining psychiatric comorbidity in adolescents in outpatient AOD treatment	20
Table 3: Prevalence of psychiatric comorbidity in adolescents in outpatient AOD treatment	22
Table 4: Sex differences and psychiatric comorbidity in adolescents in outpatient AOD treatment	23
Table 5: Demographics of participants in Addiction service vs. CAMHS and Participants vs. Non-participants (n = 149)	35
Table 6: Comparison of mean DUSI-R domain scores for young people attending the Addiction service and CAMHS	36
Table 7: Estimated 'substance use disorder' and 'mental health disorder' in CAMHS and Addiction services	36
Table 8: The properties of established screening and outcome measurement instruments	42
Table 9: DSM Substance abuse and dependence criteria	48
Table 10: Frequency of reported SUD DSM criteria in clinical adolescent populations	50
Table 11: Frequency of reported SUD DSM criteria in community adolescent populations	50
Table 12: Demographic characteristics of the community, clinical and total samples	78
Table 13: Discriminant values of the individual SACS items	79
Table 14: Demographic characteristics of the community, clinical and total samples	95
Table 15: SACS Difficulties Scale component matrix	97
Table 16: Pearson r correlations of SACS Difficulties scores vs. other instrument scores (and subscales)	97
Table 17: Pearson r correlations of SACS Difficulties scores vs. SACS frequency scale scores	98
Table 18: Mean scores of SACS Difficulties scale, and SACS frequency scales scores in the community versus the clinical population	98
Table 19: Frequency of total SACS Difficulties scores by population	99
Table 20: Discriminant function analysis classification results	99
Table 21: Sensitivity and specificity of SACS Difficulties scores (%) in community vs. clinical populations	101
Table 22: Range of change in SACS Difficulties scores in 46 treatment cases	102
Table 23: Mean SACS difficulties scores by ethnicity	104
Table 24: Breakdown of responses to question one: "What did you like about the SACS questionnaire?"	108
Table 25: Breakdown of responses to question two: "What didn't you like about the SACS questionnaire?"	109
Table 26: Breakdown of responses to question three "If you have any other comments that you would like to make, please put them here".	110
Table 27: CAMHS participant details pre-training (T1) and 10-month follow-up post-training (T3)	123
Table 28: Change in attitudes measured by the modified SAAPPQ towards dealing with young people's problematic AOD use between participants in both T1 and T2 and between participants in both T2 and T3 follow-up	126

Table 29: Change in confidence towards dealing with young people’s problematic AOD use between participants in both T1 and T2 and between participants in both T2 and T3 follow-up	128
Table 30: Participant feedback around future use of the SACS as a brief intervention in practice at T2 and T3	129
Table 31: Change in participants’ rating of factors motivating them to conduct AOD screening and brief interventions between T1 and T2 and between participants in T2 and T3 follow-up	131
Table 32: Change in participants’ rating of perceived barriers to conducting AOD screening and brief interventions between T1 and T2 and between participants in T2 and T3 follow-up	132

List of figures

Figure 1: Receiver Operating Characteristics curve for the SACS Difficulties score predicting membership of the clinical sample.	100
Figure 2: Comparison of test and re-test scores for clinical and community populations	103
Figure 3: SACS difficulties scores in community population by ethnicity	105

Table of contributions

<i>Aspect of the MD Thesis</i>	<i>Primary contributor(s)</i>	<i>Secondary contributor(s)</i>
Introduction, literature review and discussion (Chapters 1, 2 and 9)	Grant Christie completed the literature search, review and write-up.	Sally Merry and Janie Sheridan – Supervision and feedback on content and accuracy of manuscript.
Comparing morbidity in AOD and CAMHS services (Chapter 3)	Grant Christie conceived, designed, coordinated data collection (by clinicians), conducted statistical analyses and completed study write up.	Sally Merry – Supervision of research process and feedback and accuracy of manuscript Eizabeth Robinson – Supervision and checking of statistical methods.
The SACS project (Chapters 4 – 7)	Grant Christie conceived, designed, coordinated data collection (by researchers) and contributed to and supervised the study write up. Reginald Marsh was primarily responsible for psychometric analysis, which Grant Christie conducted under his close supervision.	Amanda Wheeler, Reginald Marsh and Janie Sheridan provided key input and oversight into all aspects of the research process including conception and write up. Stella Black, Rachael Butler, Christel Le Brun were involved as research assistants at different times assisting with data collection, collation and analysis, and the study write-up. Ata Samu and Tamsailau Suaalii-Sauni
Attitudes to BIs in CAMHS workers (Chapter 8)	Grant Christie, Stella Black and Amanda Wheeler conceived, designed, coordinated data collection and contributed to the study write up.	Stella Black, Lucy Dunbar, and Puti Wilson were involved as research assistants responsible for collection and analysis of data and aspects of the study write up.

1. Introduction

Adolescent alcohol and other drug (AOD) problems have been a significant health issue across the globe for well over a decade (Jernigan, 2001), particularly in Western European jurisdictions including North America (Johnson, O'Malley, Bachman et al., 2009), the United Kingdom (National Treatment Agency For Substance Misuse, 2009) and Australasia (Teesson, Hall, Lynskey et al., 2000; Wells, Baxter & Schaff, 2007). As access to alcohol and an increasingly wide range of psychotropic chemicals increases, the potential harm to adolescent development from substance misuse will continue and has been identified as a health priority area (American Academy of Pediatrics: Committee on Substance Abuse & Kokotailo, 2010; Ministry of Health, 2010).

The extent of the problem is demonstrated in epidemiological studies (Kandel, Johnson, Bird et al., 1999; Offord, Boyle, Fleming et al., 1989) and cohort studies (Feehan, McGee, Nataraja et al., 1994; Fergusson, Horwood & Lynskey, 1993) which suggest that the prevalence of substance use disorder (SUD) in community populations of adolescents is up to 15%. Furthermore the prevalence of co-existing mental health disorder in young people with a diagnosis of SUD is around 75% (Armstrong & Costello, 2002).

Local New Zealand research reflects international findings that substance use is not only widespread but that it also has a significant impact on youth health and mental health (Fergusson, Horwood & Swain-Campbell, 2002). Identifying and effectively managing substance use difficulties and disorder in New Zealand young people needs to be a key facet of our youth healthcare response and although there is a growing body of literature evaluating interventions in youth in general (Britton, 2009) there is little New Zealand research in this area.

1.1. How do services provide AOD treatment?

Health services generally meet the substance abuse treatment needs of young people poorly (Gossop, Marsden, Stewart et al., 1998; Horwood & Fergusson, 1998; Mental Health Commission, 2002; Ministry of Health, 2001b) and in New Zealand, the gap between the level of services provided for children and young people, and the number identified as requiring intervention, is greater in respect to alcohol and drug services than for mental

health services (Mental Health Commission, 2002). There are very few specialist young people's alcohol and drug services and those that do exist tend to be planned and implemented in an *ad hoc* manner (Ministry of Health, 2001b). The range, quality and focus of services, especially within the non-government organization (NGO) sector, is widely variable.

Effective responses to adolescent substance use are complicated by the fact that substance misuse problems vary greatly over the adolescent period of development; comparing the lower rates of substance misuse in early teens to the much higher rates in late teens demonstrates this (Bachman, Wadsworth, O'Malley et al., 1997), as does the marked decrease in solvent experimentation with age (Lubman, Hides & Yucel, 2006). Furthermore the nature of problems is constantly changing; for example a recent study demonstrated a 43% increase in episodes of binge drinking amongst European 16 year olds over the last decade, especially in girls (Hibell, Guttormsson, Balakireva et al., 2009). Individual differences in cognitive, emotional and social maturity, combined with the influence of a wide range of environmental factors necessitate flexible approaches to treatment.

In the provider sector youth addiction services are often set up either as part of adult alcohol and drug services or incorporated into mainstream Child and Adolescent Mental Health Services (CAMHS). This is problematic in that existing adult services are seldom equipped to deal with the diversity of developmental challenges with which young people present, and tend to be client rather than family focused. Likewise CAMHS have a poor track record of recognising and providing effective interventions for co-existing substance use disorder (Greenbaum, Prange, Friedman et al., 1991; King, Gaines, Lambert et al., 2000). Although increasing the number of specialist youth AOD services would be an optimum way to address the need in the sector (Schroder, Sellman, Frampton et al., 2009), this is not realistic in most New Zealand jurisdictions, which do not have the critical population mass required to sustain stand alone services.

In light of this, other youth health services, and CAMHS in particular, will be expected to treat young people with AOD disorder. The first step in helping these kind of services to provide AOD treatment is raising awareness of the problem and facilitating the provision of basic integrated care (Baker, Hides & Lubman, 2010). This is currently a focus for the Ministry of Health via the Coexisting Problems (CEP) project (Ministry of Health, 2010; Todd, 2010). How CAMHS tackle this responsibility into the future will depend on a combination of factors including government funding and policy initiatives, workforce development

planning, the service delivery focus of CAMHS managers and clinical leaders, and the general culture amongst CAMHS workers.

In my work as a Child and Adolescent Psychiatrist and Addiction Psychiatrist working across the Auckland region over the last 10 years, I have been involved in a number of initiatives aimed at increasing awareness of AOD problems and promoting integrated treatment within health and mental health services. What became clear from the outset, and is supported by the literature (Skinner, Roche, Freeman et al., 2009), is that educational initiatives alone seldom have lasting impact on the practice of those working in mental health services. Rather a combination of direct line management, training, ongoing supervision and specialised clinical tools need to be used together to facilitate the adaption of new behaviours (for example AOD screening) and if culture change is to occur.

1.2. Promoting AOD screening and brief interventions in health services

Better provision of screening, brief interventions and referral to treatment (SBIRT) for young people with AOD problems has been identified as a priority area for health practitioners and services (Clark & Moss, 2010). Optimising the instruments youth workers use to measure AOD problems in young people and the use of these conduct brief interventions are key areas developed in this thesis.

In the field of mental health and AOD treatment, screening instruments are essentially questionnaires, completed by clients, families and health workers, which measure specific behaviours or symptoms that are indicative of problems (or strengths) of interest. They have a long and constructive history in the addiction field, the Alcohol use disorders identification test (AUDIT) an example of a widely recognised instrument with broad utility in a range of health arenas (World Health Organisation, 1993). Screening is of key importance in the identification of substance use problems because, unlike most other health and mental health problems, the sufferer often does not recognise his or her addiction problems (Miller and Rollnick 2002). A key reason for this is related to the way that people's insight and motivation change as demonstrated in Prochaska and DiClemente's 'stages of change' (Prochaska, DiClemente & Norcross, 1992) and screening can assist in making people more contemplative about their substance use (Barnett, Apodaca, Magill et al., 2010).

We know that young people seldom seek help for AOD problems (Wells, Horwood & Fergusson, 2007); indeed, they are less likely to access AOD treatment than mental health

care (Horwood & Fergusson, 1998). Adolescent alcohol and drug use commonly occurs out of sight of caregivers and other adults and is usually actively concealed, adding to the challenge of engaging a pre-contemplative or contemplative young person into treatment. Furthermore, when young people present to other health services such as CAMHS, they are usually focused on their mental health symptoms, for example anxiety or self-harming behaviours, and may not see their substance use as problematic. Indeed it may often appear (to them or others) as adaptive in some way; for example they may find being intoxicated ameliorates their symptoms of anxiety.

The use of effective and youth-friendly AOD instruments in youth services should not only help increase awareness of addiction problems in the young people themselves, but also in their clinicians. AOD instruments that are effective, easy to use and acceptable to those using them (Merry, Stasiak, Lambie et al., 2004) are more likely to instill in clinicians the confidence to embark on AOD treatment. Once screening becomes more commonplace, it follows that AOD problems will be more frequently identified and this in turn should lead to increased AOD treatment and integrated care.

AOD screening can provide otherwise inexperienced youth clinicians an introduction to a basic AOD assessment process. Furthermore it provides a starting point for conducting 'brief interventions', which are often joined on to a screening process (Babor & Higgins-Biddle, 2001; WHO ASSIST Working Group, 2002). Brief interventions (BIs) are discussed in depth later in this thesis but are a well-researched short AOD treatment that involves psychoeducation and goal setting. They have proven effectiveness and can be easily learned (Heather, 2002). A youth health or mental health worker who experiences success with conducting basic screening and BIs is likely to be more motivated to build their AOD clinical repertoire (such as providing more detailed harm minimisation advice and/or motivational interviewing). In time, conducting BIs should assist with the process of making AOD treatment 'standard treatment' for clinicians.

Finally, having effective means to measure outcome is a key factor in any serious health service system (Gaines, Bower, Buckingham et al., 2003). AOD instruments play their part in the evaluation of service delivery, not only for AOD services but also mental health and other health services as AOD problems are a significant determinant of youth health status (Fergusson et al., 2002; Lubman, Hides, Yucel et al., 2007). More importantly, AOD instruments that can be used in a sequential way following a period of treatment to monitor progress and, in collaboration with young people, can assist in building motivation in clients as well as providing essential personal feedback.

1.3. Overview of the thesis

This thesis encompasses a body of work that addresses the issue of identification of AOD problems in young people, in particular examining the role that AOD screening might have in promoting recognition of AOD disorder in young people who present to CAMHS. This theme is developed by examining how screening can be linked to the monitoring of treatment and the measurement of outcome, and how it can be used as a part of a brief intervention, which, in turn, can help promote engagement and lead to longer interventions (Moyer, Finney, Swearingen et al., 2002).

Firstly I explore the issue of co-existing AOD and mental health disorder via a literature review. Differences in the nature and extent of DSM-IV disorder in young people in the general community and attending other services such as CAMHS is reviewed descriptively prior to a systematic review examining the extent of mental health disorder in young people attending AOD services.

This review is followed up by a naturalistic study in which I directly compared morbidity in young people attending a youth AOD service to those attending a CAMHS. This research was undertaken to support future development of youth AOD services, which were at the time still in their infancy. I anticipated that by demonstrating, from a New Zealand context, the significant morbidity in the young people attending these new services, this would support ongoing development in the area. Furthermore, this was the first direct comparison between an AOD and CAMHS service internationally thus the study represented a new contribution to the literature. I looked at the question of co-existing disorder from a different perspective from most of the co-morbidity research by examining self-reported symptoms, rather than diagnoses collected via standardised interview. The argument supporting the importance of this when studying adolescent AOD problems is discussed in light of the fact that face to face interviews have some limitations in this population when studying AOD problems.

This research (Chapter 3) was conducted using a screening instrument called the Drug Use Screening Inventory (DUSI) and in the course of this study I encountered significant limitations related to its use. It was clear that an alternative instrument would be required for routine screening in a broad range of services. Furthermore, that an effective and acceptable adolescent AOD screening instrument was not readily available was proving to be a barrier towards improving awareness, recognition and treatment of substance use problems for young people attending various kinds of health services in New Zealand.

Around this time the opportunity (via a request for proposal) arose to develop an instrument to measure AOD problems in young New Zealanders and I led a group that made a successful application for this.

Chapters 4, 5, 6 and 7 detail the development and testing of this new instrument called the Substances and Choices Scale or the SACS. The study took over two and a half years to complete and as principal investigator, with 0.2 FTE of my time funded over this period, I was involved closely with every aspect of the research which encompassed a range of qualitative and quantitative methods. In particular I was privileged to work with a notable psychometrician, Reginald Marsh, who oversaw the various psychometric evaluations performed.

The development of the Substances and Choices Scale began with a circumscribed review of the literature and the assembly of a series of preliminary items to make up the questionnaire. This process is described in chapter four.

Chapter 5 details the process of obtaining extensive feedback from youth health and AOD clinicians and subsequently testing the preliminary items with young people in treatment via a semi-structured interview, and in young people not in treatment through a focus group discussion. Information gathered from this stage resulted in a number of changes to the instrument.

The next stage, detailed in Chapter 6, was a pilot of the amended instrument amongst a community and clinical sample. This research, conducted with young people attending a local secondary school and young people in treatment, established some preliminary psychometric properties of the instrument and also allowed us to investigate its acceptability. In addition we were able to check the suitability of the proposed scoring system for the SACS instrument and assist in making final decisions about its make up.

Chapter 7 describes the psychometric testing of the finalised instrument. This was undertaken with a large sample of secondary school pupils as well as young people in treatment services and involved testing the SACS against established instruments. Because of the scale of the project, an extremely comprehensive examination of the psychometric properties of the instrument was possible. Indeed the extent of testing undertaken was greater than for most similar instruments. Internal, split-half and test-retest reliability were examined as was the dimensionality of the instrument. Congruent validity was tested and sensitivity analysis investigated. The ability of the SACS to detect change was studied. Finally

and importantly qualitative information about the general acceptability of the instrument was collected from our large sample of young people.

One of the more interesting findings from the qualitative part of the psychometric testing stage was the high numbers of young people reporting they 'liked completing the SACS because it made me think about my substance use.' This observation, satisfying in itself, was notable in that it reflected part of what occurs when a clinician conducts a brief intervention. BIs are usually based around some kind of screening assessment and the acceptability and validity of the Substances and Choices Scale made it an ideal candidate to base a brief intervention on. In light of this, a brief intervention utilising the SACS was designed, along with a training workshop to teach CAMHS clinicians, in particular, how to conduct brief interventions with their clients. This work was supported by a national workforce development organisation that requested an evaluation of both the brief intervention and the training. In particular they were interested in the attitudes of CAMHS workers to providing AOD brief interventions in their day to day work. This evaluation is described in Chapter 8.

In the final chapter I consider the implications of the various strands of research incorporated in this thesis and discuss how to apply in practice what we know about screening and identifying co-morbidity to benefit more New Zealand young people. One key application centers on developing the capacity of staff in CAMHS and other health services to provide brief interventions. Potential for further research regarding the use of the SACS screening tool for this purpose is discussed.

2. The prevalence of mental health disorder in young people attending outpatient addiction services

2.1 Introduction

Fundamental to the issue of how services best identify and manage the inherent complexity in their clients is the extent of mental health comorbidity. A clear description of the scope of coexisting mental health and substance use difficulties in young people attending services is required as a starting point for any further work examining effective responses to this problem.

Around 2001, at the time I began working and researching in the area of youth substance abuse, there were few substance use services for young people in New Zealand and it was necessary to demonstrate the need for increased development in this area (Ministry of Health, 2001a). Available literature at the time suggested similar rates of co-existing disorder across both CAMHS and youth addiction services and presenting this clearly to a service environment dominated by mental health services was important. In addition it became apparent that no studies directly comparing the morbidity of young people attending addiction and mental health services had been conducted at that point. This limitation of the literature set the scene for the study in the next chapter, which aimed to compare young people attending different services in a New Zealand setting.

This literature review is divided into two parts. First a brief descriptive review of comorbidity in various youth populations (community and clinical) is presented to provide context for the systematic review that follows. This aims to describe the extent and nature of co-existing mental health disorder in young people attending outpatient substance use services.

2.2. Descriptive review of comorbidity in youth community and treatment populations

Overview of substance use problems in adolescence

Adolescence is a period of developmental transition that is marked by physical, psychological and social changes. The psychological and social tasks of adolescence include

the establishment of independence and autonomy, formation of identity and affiliation with peers. This contributes to risk-taking behavior (Fergusson & Lynskey, 1996) of which substance use is a common and potentially damaging manifestation. Experimentation with substances is thus fairly universal occurrence in youth and differentiating between normal and problematic behaviour can be difficult (Bauman, 1999).

Persisting and severe substance related disorder (or addiction) almost always begins with experimental use in adolescence with a fairly rapid development of frequency of use and range of substances used (Kandel, Yamaguchi & Chen, 1992). For many years the usual pattern was one where alcohol, tobacco and inhalants were misused first before going on to 'harder drugs', however in recent years cannabis is increasingly a 'gateway' substance and used first by adolescents (Fergusson & Horwood, 2000b; Golub, 1994).

Evidence suggests that the younger one begins using substances, the greater the risk of developing substance related problems as an adult (American Academy of Pediatrics: Committee on Substance Abuse & Kokotailo, 2010; Grant & Dawson, 1997). That said heavy use of substances is, in many young people, 'adolescence limited' in that it does not necessarily lead to dependence, and moderation and cessation are more likely to occur in adolescence than in adulthood (Kaminer, 1999). Furthermore it is thought that the impact of child and adolescent risk factors on the development adult substance use might be mediated by the intensity of substance use in late adolescence (Bates, 1997). Effective prevention strategies and establishing effective methods of treating substance abuse in younger populations may attenuate or prevent potential adult substance use problems (Lubman, Hides et al. 2007).

Alcohol remains the main substance of use and abuse in adolescents and evidence has not shown a significant reduction in recent years. In New Zealand the Adolescent Health Research Group reported on a cross-sectional self-report survey on 9570 students attending secondary schools across New Zealand (Ameratunga, Waayer, Robinson et al., 2011). Seventy two percent had drunk alcohol at some stage and 61% were current drinkers. Thirty four percent had had an episode of binge drinking in the last 4 weeks. Thus about 1 in 3 young New Zealanders age 12-16 engage in binge drinking, which is similar to the levels reported in the 16-21 year old age band reported on in Te Rau Hinegaro, the New Zealand Mental Health Survey (Wells, Baxter, et al., 2007). In Australia, one fifth of young people report very high risk drinking (more than 20 drinks per occasion in males) at least monthly, and the number of 18-24 years olds admitted to hospital due to alcohol-related problems has more than doubled (Livingston, Laslett & Dietze, 2008).

Generally alcohol is the most harmful substance of abuse and amongst young people leads to more deaths and problems requiring hospital treatment than illicit drugs and tobacco combined. Mostly this is related to injuries, intentional or unintentional, (Horwood & Fergusson, 2000; Loxley, 2004) but risky sexual behaviour (Graves, 1995), sexual exploitation (Howard, Griffin & Boekeloo, 2008), unexpected pregnancy and sexually transmitted diseases are examples of other harms associated with alcohol use and abuse (Hingson, Heeren, Zakocs et al., 2002). Adolescents who misuse alcohol have a higher risk of involvement in criminal activities, which is in part related to the disinhibiting effects of alcohol (Fergusson & Horwood, 2000a; Miller, Levy, Spicer et al., 2006). Furthermore they suffer more mental health disorders (Dawes & Johnson, 2004).

Cannabis, along with alcohol, is the other predominant substance of abuse (excluding tobacco) by New Zealand adolescents with 27% of New Zealand youth having used marijuana at least once and nearly 5% using it weekly or greater (Adolescent Health Research Group, 2008). Its use is associated with educational underachievement, occupational instability, increased use of other illicit drugs and fewer life opportunities (Hall, 2006). Evidence is accumulating directly linking cannabis use to an increased risk of mental health problems including depression (Patton, Coffey, Carlin et al., 2002) and psychosis (Lambert, Conus, Lubman et al., 2005; Lubman, King & Castle, 2010).

Methamphetamine use is less common in young people however is problematic as users usually experience a wide range of harms including psychotic symptoms, depression, anxiety, aggression and violence, social problems, and sexual risk-taking behaviour (Lee, Caporilli, Connolly et al., 2004). Problems related to ecstasy use include physical harms, such as non-fatal overdose, dehydration and memory impairment, and psychological harms, such as depression and anxiety (Degenhardt & Dunn, 2007).

Although only a small proportion of young people regularly use inhalants they are often one of the first drugs that young people experiment with and have a high potential for harm (Kurtzman, Otsuka & Wahl, 2001). Early inhalant use is associated with later mental health and substance use disorders as well as injecting drug use (Lubman, Hides et al. 2006).

Adolescents have higher rates of binge and opportunistic substance use than adults and are more susceptible to peer influence, as they are at a vulnerable developmental stage in terms of forming their own identity (Mark, Song, Vandivort et al., 2006). They present to services for treatment related to cannabis use most frequently (relative to other substances) and those presenting generally report a broad range of co-existing issues, including deliberate

self-harm, mental health problems such as depression, anxiety and psychosis, abuse issues, limited educational background and training opportunities, offending behaviour, family dysfunction and homelessness (Crome, 1999). The combination of these problems is usually heterogeneous and complex (Tarter, Kirisci & Mezzich, 1997). The fact that young people are more likely than adults to enter treatment due to external (e.g. legal or family) pressures (Melnick, De Leon, Hawke et al., 1997) and are more likely to only stay in treatment for a short period (Hser, Grella, Hubbard et al., 2001) are further treatment challenges.

Comorbidity in community populations

Cross-sectional studies

Community population-based studies show that adolescents with substance use disorder (SUD) and other problematic substance use have high rates of co-morbid psychiatric illness. These studies are usually of a cross-sectional design and involve administering structured interviews in a systematic way to independent, random samples of the population. These studies have utility in establishing population prevalence of disorder however sampling methods usually require potential participants to be either at home or at school. Adolescents with substance use disorder have high levels of conduct disorder (in the order of around 70%) and because truancy and absconding from home are often seen in this population (Kandel et al., 1999), this may lead to underestimates of prevalence across a population.

The Oregon Adolescent Depression Project (OADP) used the Schedule for Affective Disorders and Schizophrenia in Children (KSADS) to gather data on a cross-sectional sample of 1710 American high school students (Lewinsohn, Hops, Roberts et al., 1993). The lifetime prevalence of any DSM disorder was 37.1% and in those with SUD, the lifetime prevalence of any other disorder was 60% (unipolar depression 49.3%, disruptive disorder 25.4%, anxiety disorder 16.2%.) For those with SUD, the probability of having any other DSM-III-R disorder was significant with an odds ratio (OR) of 4.3, as it was for selected diagnoses (disruptive behaviour disorder - OR 5.6, eating disorder - OR 5.0, anxiety disorder - OR 2.2 and unipolar depression - OR 4.5).

The MECA (Methodology for Epidemiology of Mental Disorders in Children and Adolescents) study (Kandel et al., 1999) examined a community sample of 401 adolescents aged 14-18 years using the Diagnostic Interview Schedule for Children (DISC). In those with a SUD

diagnosis (6.2%) rates of mood, anxiety and disruptive behaviour disorders were three times that of adolescents without SUD. The 6-month prevalence of any comorbid anxiety, mood or disruptive behaviour disorder in youth with SUD was 76% (anxiety disorder 20%, mood disorder 32%, disruptive behaviour disorder 68%).

A recent study has compared a community sample of young people to a 'high risk' sample comprising young people of parents who were undergoing treatment for SUD. This study found lower rates of SUD in the community group (12.3%) compared to those at 'high risk' (38.3%) but similar rates of comorbid psychiatric disorder (52.7% and 62.2% respectively) in young people with SUD from both groups (Essau, 2011).

Adult mental health surveys seldom include participants across the full age range of adolescence but do sometimes sample older adolescents. They usually present their findings in age bands (for example age 15 – 25 year olds) and recent Australasian epidemiological studies have demonstrated the highest rates of SUD and comorbidity in these younger age bracket (Teesson et al., 2000; Wells, Baxter, et al., 2007).

Cohort studies

Cohort or longitudinal studies, rather than using independent samples of a population, rely on repeat surveys of the same individuals. Problems associated with cohort studies are related to the difficulty of keeping contact with the cohort over time. For similar reasons as discussed above (truancy and absconding from home), youth with substance use problems are more likely to drop out of a study or get lost to follow up. In addition there may be subtle effects associated with growing up 'in a study' and being repeatedly interviewed and scrutinised over a period of time. Two key cohort studies from New Zealand are included here as they provide the best local data on the prevalence of substance use disorder and comorbidity in New Zealand young people.

The 1-year prevalence of DSM-III-R defined mental disorder in a birth cohort of 930 New Zealand 18 year olds, participants in the Dunedin Multidisciplinary Health and Development Study (DMHDS), was assessed using a modified DISC (Feehan et al., 1994). Prevalence of alcohol dependence was 10.4% and marijuana dependence 5.2%. Substance dependence disorders were the third most prevalent group of disorders after anxiety disorders and mood disorders. Comorbidity of mental disorder in those with SUD was approximately 66%. Levels of SUD comorbidity with conduct disorder and depression were comparable at 33%. Slightly higher levels of SUD comorbidity with anxiety disorder (40%) were reported.

The Christchurch Health and Development Study examined substance use at an earlier age in adolescence (Fergusson et al., 1993). This study used a modified DISC, supplemented by survey questions, and reported on prevalence and comorbidity of DSM-III-R diagnoses in a birth cohort of 1000 New Zealand children at age 15. Using both parent and child reports they found the prevalence of any substance abuse/dependence to be 7.7%. They found that those with substance abuse/dependence diagnoses had a high risk of comorbid disruptive behaviour disorders (conduct disorder - OR 11.4, ADHD - OR 7.0) and mood disorders (OR 4.4.)

Comorbidity in psychiatric outpatient populations

Studies reporting on the prevalence of substance use problems in populations attending for outpatient psychiatric treatment provide another perspective on the issue of comorbidity in clinical populations.

Wilens looked at the prevalence of SUD in adolescent outpatients presenting to a mental health service for routine clinical review using the KSADS (Wilens, Biederman, Abrantes et al., 1997). Of the 359 subjects, 38 (11%) met DSM-III-R criteria for a SUD. Of the group with SUD, 76% had depression, 29% fulfilled criteria for social phobia, 18% for panic disorder, and over half had a disruptive behaviour disorder (ADHD 61%, ODD 68%, conduct disorder 50%).

The Fort Bragg Demonstration project also examined SUD and comorbidity in adolescents presenting to mental health services (King et al., 2000). The sample totaled 428 clients but only 59 of these were identified by the service as having SUD (13.8%). Findings from this study included that recognition of SUD by services was poor in that 43% of providers failed to diagnosis comorbid SUD in their clients. Those services operating under a fee for service model recognised only 4% of those with comorbid SUD. Although this very low rate may in part reflect financial motivations (recognition of SUD being reimbursed for less), nevertheless it is worryingly low.

Aarons compared the prevalence of SUD in adolescents attending various types of services (Aarons, Brown, Hough et al., 2001) finding that the prevalence of SUD in an adolescent population attending a mental health service (41%) was around half that seen in adolescents attending a substance use service.

Baker et al (Baker, Lubman, Cosgrave et al., 2007) examined comorbidity in a cohort of 150 young people attending a mental health service in Melbourne finding 22% had a SUD

diagnosis. Of these, 57% had coexisting anxiety disorder and 83% had mood disorder. They compared those with comorbidity to those with only mental health disorder and found that those with coexisting substance disorder had a similar level of psychopathology but poorer functioning than those with mental health disorder alone.

Comorbidity in inpatient populations

Studies in inpatient and residential populations of adolescents demonstrate, as might be expected, higher levels of SUD and co-morbid mental illness than in community populations. Studies in inpatient and residential populations tend to be well designed because individuals live in a facility for weeks to months allowing time to perform structured interviews and gather data. Residential and inpatient samples provide information that assists in building a picture of youth who present to substance use services in general but is less applicable to services in New Zealand as residential service delivery is expensive and less common.

A retrospective record review of 91 admissions to a residential adolescent substance abuse treatment program found considerable comorbidity (63.7%). Attention deficit hyperactivity disorder occurred at rates of 11%, conduct disorder at 24%, depression 24%, adjustment disorder 7.7% and bipolar disorder 3.3% (Wise, Cuffe & Fischer, 2001). Another study examining comorbidity using the KSADS on a sample (n=226) of 12-18 year olds admitted to an inpatient facility for a primary substance use problem found DSM diagnoses in 82% of the sample (Stowell & Estroff, 1992). Specifically, 61% of adolescents had a mood disorder, 54% had conduct disorder and 43% suffered from some kind of anxiety disorder.

Although there is no New Zealand research examining comorbidity in young people attending residential addiction treatment, a retrospective study has examined the prevalence of comorbid substance use disorder in sixty-two 16-18 year olds consecutively admitted to a psychiatric inpatient unit (Swadi & Bobier, 2003). 64.5% had a comorbid SUD, usually involving cannabis or stimulants. 80% of those with a schizophrenia spectrum disorder had comorbid SUD, as did 60% of those with a mood and 63% of those with anxiety disorder.

Summary of SUD comorbidity in community and clinical adolescent populations excluding outpatient AOD services

Data from community epidemiological studies on adolescents (the OADP and MECA studies) and the two New Zealand cohort studies would indicate that adolescents with SUD have high rates of comorbid mental illness (over 60%). Findings from a systematic review on the topic of adolescent comorbidity concluded that 60% of young people with SUD had one or more comorbid diagnosis (Armstrong & Costello, 2002). This study reported that the most common DSM disorders in community youth with SUD are the disruptive behaviour disorders (conduct disorder, ADHD and ODD) and these occur at rates of approximately 25%-68%. Mood disorders (32%-49%) and anxiety disorders (16%-40%) also frequently coexist with SUD.

The prevalence of comorbid DSM diagnosis in adolescents who present to inpatient or residential services for treatment for a substance use problem is even higher. A large proportion will have conduct disorder (up to 75%) and up to 65% may have a mood disorder, most commonly depression. Anxiety disorders and ADHD also occur relatively commonly. There are also high rates of SUD in adolescents attending psychiatric services. Rates of SUD occur in the order of 11%-40% and those with SUD tend to have high risk of other psychiatric disorder, in particular conduct disorder and depression. Comorbidity in young people attending outpatient substance abuse treatment services is examined systematically below.

2.3. Systematic review of the prevalence of psychiatric comorbidity in young people attending outpatient AOD treatment services

The systematic review presented here aims to describe, using the highest quality empirical information available, the extent and nature of co-existing mental health disorder in young people attending outpatient AOD services. The review is focused on prevalence of mental health and AOD disorder in outpatient treatment samples and this tight focus is relevant as future service development in NZ is likely to be largely in community treatments and it is representative of the AOD service that I work in.

2.4. Methods

Search strategy

Using the Ovid interface, a National Library of Medicine's (NLM) Medline and Medline in process database search was conducted using the following Medical Subject Headings (MeSH) major descriptors; substance-related disorders, adolescent, mental disorders and comorbidity. The search was limited to one database in view of resource and time restraints. The search was further limited to English language articles and articles published in the last 12 years that dealt with human subjects and contained abstracts. The search results are detailed in Table 1.

Table 1: Systematic review search strategy

#	Searches	Results
1	Comorbidity/	51543
2	Adolescent/	1435765
3	Mental Disorders/	107703
4	Substance-Related Disorders/	70283
5	1 and 2 and 3 and 4	532
6	limit 5 to (abstracts and English and humans and yr = "1999 - 2011")	363

Selecting the articles

The abstracts of the 363 articles were reviewed and those meeting the following inclusion criteria were eligible for further reviewed:

- Empirical studies (case reviews, editorials, letters and review articles excluded)
- Age range of 12 – 20 years
- 100 or more subjects
- Treatment seeking population (community studies were not included)
- A proportion of study population were attending outpatient treatment (studies reporting only inpatient or residential populations were excluded)
- Reporting DSMIII-R or DSM IV SUD criteria and DSM Axis 1 diagnoses.

Although most articles could be excluded by reviewing the abstract, papers that were unable to be excluded directly this way were sourced and read. Papers addressing examining treatment outcome (rather than comorbidity) were sourced, as these sometimes contain detailed descriptive information about pretreatment characteristics of samples of young people. In view of the low yield of relevant papers, cross-referencing of a few key papers was undertaken. Where multiples articles reporting on data from the same research study were found, the article with the most comprehensive information for purposes of this review was chosen in lieu of the others.

Full texts were obtained for 27 articles and 9 met the final inclusion criteria. For the majority the relevant information was able to be reported directly from the paper however in a few cases it was derived from the data available.

Methodological issues

Despite debate around the validity of adult definitions of ICD and DSM substance use disorder in adolescent populations, which is discussed later in this thesis, this literature review concentrates on studies that have used structured interviews to yield DSM-III and IV substance use disorder diagnoses, those being substance abuse (where maladaptive use has led to failure to fulfill work, school or social responsibilities) and substance dependence (which is a more severe form of abuse and involves increasing use of a substance due to development of tolerance and in the face of significant clinical and social impairments secondary to its use). Together these two conditions are known as substance use disorder (SUD). Likewise, a decision to include only studies that report psychiatric DSM diagnoses was taken so as to yield the highest quality information for the purposes of this review. This

decision limits the results in that although it ensures higher quality of information there is less quantity (fewer studies/cases) to choose from.

The significant variation in terminology used necessitated a fairly broad-based search strategy and, after trials of various keywords, use of the MeSH headings was found to provide the widest coverage so as to not omit any relevant papers. This complexity in terminology is exemplified by the following terms for types of substance use; substance abuse, substance misuse, dependence, dependent use, harmful use, hazardous use, problem use, addiction, alcoholism, chemical abuse, chemical dependence. Variation in terminology extends to the terms describing comorbidity including co-occurring disorder, dual diagnosis, co-existing problems or CEP.

Similarly there is a broad range of ages and terms for 'adolescents.' The age range of studied 'adolescent' populations can vary from anywhere between 10 years to 25 years and terminology used includes youth, young people, adolescents, teenagers, high school students and delinquents. Another issue is the multitude of specific substances (i.e. alcohol, cannabis, hallucinogens, stimulants, 'downers', opiates etc.) that are researched. Most work tends to separate substances into three groups; alcohol, cannabis related products and other 'illicit drugs'. Although the study of disorder related to a specific substance (i.e. cannabis) can be useful in understanding pathways to later abuse and dependence in adulthood, it can also create the false impression that young people's use of substances is similar to the pattern seen in adults who tend to settle on one preferred substance. Young people's choice of substances is largely determined by availability and opportunity for experimentation. For example hallucinogen and inhalant abuse is seen more frequently in youth than in adults and younger substance abusers are more likely than adults to have multiple substance abuse diagnoses (Bachman et al., 1997; Kaminer, 1999).

Limitations of the data available necessitated the use of mainly North American research although relevant New Zealand and Australian information is included where possible.

2.5. Results

Sample characteristics

The sample and methodological characteristics of the selected studies published between 1999 and 2010 is shown in Table 2.. All nine studies utilised consecutive or random sampling

methodologies. The settings for the studies demonstrated fairly wide variability and the dearth of studies necessitated inclusion of populations that were not wholly outpatient. Studies that include inpatient or residential populations may be representative of adolescents with more severe problems thus the percentage of outpatient participants is recorded for comparison and those studies with 'pure' outpatient samples are grouped together on the table.

Study populations were over-represented in Caucasian males although one study was of African American and Hispanic adolescents only (Robbins, Kumar, Walker-Barnes et al., 2002). The mean age of participants in the studies was around 16 years.

There was a wide range of structured or semi-structured interviews used to elicit DSM diagnoses including several versions of the Diagnostic Interview Schedule for Children (DISC), the Schedule for Affective Disorders and Schizophrenia for School-Age Children (K-SADS) and the Global Appraisal of Need (GAIN). Prevalence of disorder reported varied from lifetime to current and where possible 'current prevalence' (one year) is presented.

Prevalence of disorder

Substance use disorder

Although there is substantial variation in the types of DSM substance use disorder reported in the studies, in general prevalence rates of any substance use disorder were high (above 70%) as might be expected in populations of adolescents who have been referred to an service for AOD treatment (see Table3). The results indicate clearly that alcohol and cannabis use disorders are more common than other substance use disorder. Rates of cannabis use disorder (45 – 96%) were higher than alcohol use disorder (18 – 88%). Two studies found a clear association linking more severe substance problems (diagnosis of dependence) with higher levels of co-existing mental health and substance use disorder (Chan, Dennis & Funk, 2008; Tims, Dennis, Buchan et al., 2002).

Table 2: Sample and methodologies of studies examining psychiatric comorbidity in adolescents in outpatient AOD treatment

Study	Age band	Setting (% Outpatient)	Sample size	Male (%)	Mean age	Interview SUD	Interview PD	Timeframe
(Kelly, Cornelius & Clark, 2004)	12 - 19	34	503	63	16	SCID	K-SADS	Current
(Molina, Bukstein & Lynch, 2002)	14 - 19	?	395	63	17	SCID	K-SADS	Lifetime
(Chan et al., 2008)	12 - 15	71	916	66	14	GAIN	GAIN	Past Year
	15 - 17	68	4014	74	16	GAIN	GAIN	Past Year
(Lubman, Allen, et al., 2007)	16 - 22	100	100	53	19	SCID	SCID	Current
(Robbins et al., 2002)	14 - 19	100	167	87	16	ADAD	DISC	Current
(Rounds-Bryant, 1999)	14 - 18	100	826	68	15	ASI	DISC	Past Year
(Rowe, Liddle, et al., 2004)	12 - 17	100	182	82	15	DISC	DISC	Current
(Tims et al., 2002)	12 - 18	100	600	83	16	GAIN	GAIN	Past year
(Latimer, Stone, et al., 2002)	12 - 19	100	135	75	16	DICA	DICA	Past year

SUD – Substance Use Disorder; PD - Psychiatric Disorder; SCID – Structured Clinical Interview for DSMIII-R; K-SADS – Schedule for Affective Disorders and Schizophrenia for School Age Children; GAIN - Global appraisal of individual needs; ADAD – Adolescent Drug Abuse Diagnosis; DISC – Diagnostic Interview Schedule for Children; ASI - Addiction Severity Index; DICA – Diagnostic Interview for Children and Adolescents.

Mental health disorder

The range of reported mental health disorder in the population of adolescents in outpatient AOD treatment is shown in Table 3 and was also high with all studies reporting rates higher than 50% and one study finding 88% with coexisting disorder. The disruptive behavior disorders or 'externalising disorder' include conduct disorder (CD), oppositional defiant disorder (ODD) and attention-deficit hyperactivity disorder (ADHD) and were generally more prevalent than 'internalising disorders' (comprising mood and anxiety disorders).

The prevalence of conduct disorder (CD) was reported in the range of 43 – 73% and attention deficit hyperactivity disorder (ADHD) 11 – 48%. The prevalence of internalising disorders was also high with mood disorders occurring in 7 – 52% and anxiety disorder in 14 – 38%. Although only 4 studies reported on prevalence of post-traumatic stress disorder (PTSD), which occurred in a range of 12 – 39%, the rate of PTSD in three of these studies was higher than that of other anxiety disorders and comparable to rates of mood disorders.

Only one study compared rates between ethnicities. This found that young people of Hispanic origin reported comorbid disorder more often than African-American adolescents (Robbins et al., 2002).

Four studies reported on prevalence rates for males and females separately and these showed higher prevalence of internalising disorder in females and of externalising disorder in males (see Table 4). In particular mood disorders occurred in females at rates between 38 - 70% compared to 25 – 40% in males. Conduct disorder occurred in 55 - 63% of females compared to 77 - 82% of males.

In terms of age differences, one study presented findings across a range of age bands, which is presented in Table 3 (Chan et al., 2008). This study showed a lower prevalence of SUD in the under 15 age band however slightly higher prevalence of mental health disorder. Further research in the cohort from the Rounds-Bryant study included in this systematic review found that youth with comorbid mental health problems were younger than their counterparts with only a substance use diagnosis (Grella, Hser, Joshi et al., 2001).

Table 3: Prevalence of psychiatric comorbidity in adolescents in outpatient AOD treatment

Study	Substance disorder %				Any MHD %	Externalising disorder %		Internalising disorder %		
	Any	Alcohol	Cannabis	Other		CD	ADHD	Mood	Anxiety	PTSD
Kelly	100	88	80	53 (A)	>69	69	26	52	18	12
Molina	100	100			>73	73	30			
Chan (age < 15)	72	14	42	2 (A)	76	57	48	33	14	37
Chan (age 15 -17)	82	18	45	4 (A)	73	56	45	36	17	39
Lubman	75	16	57	14 (A)	50			34	17	27
Robbins		36	83	17 (C)	87	55	32	30	34	
Rounds-Bryant		28	63	5 (C)		43	11	7		
Rowe	100	21	90	16 (A)	88	69	28	30	38	
Tims	100		96		61	53	38			
Latimer	100	73	91	21 (A)		66	41	40		

MHD = Mental health disorder; CD = Conduct disorder; ADHD = Attention-deficit hyperactivity disorder; PTSD = Post-traumatic stress disorder; A = Amphetamine; C = Cocaine.

Table 4: Sex differences and psychiatric comorbidity in adolescents in outpatient AOD treatment

Study		ADHD	CD	Mood	Anxiety	PTSD
Kelly	Male	32	77	40	6 (SP) 4 (PD)	8
	Female	17	55	70	14 (SP) 16 (PD)	20
Molina	Male	37	82			
	Female	17	63			
Lubman	Male			25	1.9 (SP) 3.8 (PD)	19
	Female			38	2.1 (SP) 17 (PD)	36
Latimer	Males	46	72	37		
	Females	24	47	50		

ADHD = Attention-deficit hyperactivity disorder; CD = Conduct disorder; Mood = Mood disorder; Anxiety = Anxiety disorder; PTSD = Post-traumatic stress disorder, SP = Social phobia; PD = Panic disorder.

2.6. Discussion

This review describes the prevalence of DSM disorder in adolescents accessing outpatient substance use services and has found rates of SUD above 70% and rates of mental health disorder greater than 50%. The implications of this high comorbidity for those planning and working in services are discussed below and developed further in the final chapter of this thesis.

At the outset it is important to note that measuring the prevalence of categorically classified syndromes, such as DSM diagnoses, is preferable not because the classification of disorder is necessarily valid, but because it is a reasonably reliable way to measure one aspect of psychosocial functioning. That said, it is important to remember that for most young people presenting at services, their problem is not 'alcohol and other drugs', rather it is a series of issues of which drugs is a serious component (Tims et al., 2002). Complexity in these young people is the rule rather than the exception and simply reporting comorbid diagnosis risks oversimplifying the issues.

Furthermore, describing prevalence of disorder in services does not, in itself, describe the actual rate of co-occurring disorder in the individuals. As an example, half of a theoretical sample may have one disorder, the other half another kind of disorder, but if none have both disorders then there is no co-morbidity. Few of the papers sourced for this literature review reported on actual rates of co-occurring disorder, however in five of the studies 100% of the sample had at least one SUD diagnosis, thus in these cases the rates of 'any mental health disorder' are equivalent to the rates of co-existing disorder. Furthermore, the prevalence of mental health disorder in these five studies with a 100% SUD sample is very similar to the other studies reported here. This strongly suggests that young people accessing AOD services, whether they fulfill criteria for SUD or not, generally have a constellation of problems which are clinically significant and complex. The one exception to this is the Rounds-Bryant study that had a large pure outpatient sample and reported slightly lower rates of coexisting mental disorder (Rounds-Bryant, 1999).

Reasons for differences in reported prevalence

One feature of the studies reported above is the marked heterogeneity of the sample populations, exemplified by the variance in proportions of outpatients to inpatients. In view of the low numbers of studies overall, a decision to include all the studies was taken (with

those studies reporting on exclusively outpatient populations being grouped together in the second half of the table). Without detailed information about the nature and admission criteria of the services in which the studies were undertaken it is difficult to draw any firm conclusions about what effect, if any, the mixture of patients from different settings would have on the results. However, on reviewing the data it does not appear that studies sampling residential and inpatient populations report obviously higher rates of coexisting disorder than those with exclusive outpatient populations.

One study reported above compared young people in a wide variety of substance use treatment programmes in the United States (Rounds-Bryant, 1999) and provides some answers to the question of what impact the intensity of the service setting might have on the levels of comorbid mental health disorder. The data presented in Table 3 is from outpatient programs (n=826) only, however the paper also reported on prevalence in two other modalities, long-term residential (1627) and short-term inpatient (929). The short-term inpatients tended to have higher morbidity than those attending the residential programmes and they in turn had higher morbidity than those attending outpatient services. The rates of depression and conduct disorder in outpatients were 7% to 43% respectively, and in inpatients, 43% and 61%.

The variation in the prevalence rates reported in the selected studies will also be, in part, a function of differences in the methodologies and sampling of the studies. The exclusion and inclusion criteria for the studies were dissimilar. For example two studies (Robbins et al., 2002; Tims et al., 2002) excluded participants reporting criminal behaviour and these studies reported comparatively lower rates of CD and somewhat higher prevalence of mood and anxiety disorder.

Sex differences in prevalence

All of the study populations had more males than females, which has the effect of skewing the overall data to suggest that externalising disorder (oppositional defiant disorder, conduct disorder and ADHD) occurs more commonly, whereas it is actually just more common in males, who present to the services in these studies more frequently than females. However the pattern of males tending to dominate those attending services does reflect actual service utilisation, as the studies were cross-sectional.

The implications of this for those planning services are that although the high levels of comorbid externalising disorder reflect actual service need at the coalface, services should be also be making provision for the specific and different problems more commonly seen in the girls in their services. Furthermore when one considers that sex differences in prevalence of comorbid disorder in community populations are not as striking as those found in clinical services (Armstrong & Costello, 2002), these findings may reflect the impact of the actual services themselves, which, being geared towards males, may be inadvertently selecting them for treatment. Making services more receptive to the needs of females, in particular in terms of comorbidity, may go some way to addressing this imbalance. On the other hand, analysis of sex differences of young people presenting to mental health services could well demonstrate that girls with coexisting mood and SUD are accessing help via the mental health system (rather than AOD services) underlining the importance of providing effective integrated care in CAMHS teams.

Comparison with community prevalence of mental health disorder

When comparing clinical comorbidity data against that seen in the community it is accepted that clinic samples will always contain a disproportionately larger proportion of patients with comorbidity (Caron and Rutter 1991). This is because the likelihood of an individual with two disorders being referred to a service will be a function of the combined likelihood of referral for each disorder separately. This leads to an over-representation of comorbidity rates that might be seen in the community. However in the case of substance use comorbidity the fact that there is usually a different service system involved for each key diagnosis (SUD vs. mental health disorder) means this observation is less straightforward.

The most recent review of comorbidity in community populations (Armstrong & Costello, 2002) found prevalence rates of conduct disorder in young people with comorbid SUD in the order of 44% - 68% (median 52%) but this number dropped to 0 - 12% in those young people without SUD. This compares to the rate of 43% – 73% (median 57%) demonstrated in clinical populations in this review. Similarly, the community prevalence of mood disorder was reported as ranging from 11% - 32% (median 19%) in comorbid youth however was much less in those young people without coexisting SUD (5% - 11%). The prevalence of mood disorder in clinical samples was 7% - 52% (median 34%).

The relationship between substance and psychiatric disorder

Three possible models may explain the relationship that is found between substance and psychiatric disorders in young adults and adolescents. Firstly psychiatric disorders may lead to use of substances. This is supported by the fact that many mental health disorders begin in early adolescence however most addictive disorders do not emerge until young adulthood.

A second possible explanation is that substance use leads to psychiatric disorders, for example through psychopharmacological mechanisms, some kind of toxicity or the effect that drug use has on psychological functioning. Substance use sometimes precedes psychological disorders and Brook et al, in a longitudinal cohort study designed to examine the temporal relationship between psychiatric disorders and drug use, after controlling for earlier psychiatric disorders, found a significant relationship between early adolescent drug use and later depressive and disruptive behaviour disorder (Brook, Cohen & Brook, 1998). In these cases the use of substances appeared to precede psychiatric symptoms.

The association between drug use and psychiatric disorder in adolescents may also be explained via a third trajectory; the two disorders being correlated because both share similar aetiological factors. These might include biological, psychological and social factors such as neurotransmitter functioning, peer, family and personality functioning, socio-economic factors and life experience. One study looking at this relationship found that substance abuse usually occurred at the same time as psychosocial stressors such as sexual and physical abuse, parental separation, unplanned pregnancy, parental substance abuse and bereavement (Stowell & Estroff, 1992).

The most likely explanation is that all three mechanisms may play a part in determining the temporal sequence of comorbidity depending on the individual and their specific problems. In the majority of cases it would appear that mental health disorder precedes SUD in young people who develop coexisting disorder. Conduct disorder has been found to increase the risk of drug use in both early and later adolescence (Offord et al., 1989). Depression has also been shown to largely precede substance abuse (Deykin, Buka & Zeena, 1992). One reason for this might be that substance use is a means for adolescents to cope with interpersonal distress; for instance, substance use may be used to reduce dysphoric mood, at least in the short term (Brook et al., 1998). One of the studies included above found mood disorder was preceded by substance disorder by the order of one year however onset of PTSD was similar to the time of onset of substance disorder (Lubman, Allen, et al., 2007).

One study that asked youth about the temporal sequence of the onset of their depression and substance dependence (Deykin et al., 1992) found that 43% of those with dual diagnosis reported that depression followed dependence on substances, 35% reported that depression preceded dependence on substances and 22% felt the disorders occurred at the same time. In general, psychopathology tended to precede substance abuse, and the authors concluded that it was a risk factor for the development of substance abuse disorder. That said, they also found that substance abuse appeared to exacerbate psychiatric symptoms in most cases.

O'Neil et al reviewed 9 studies looking at the temporal sequencing of mood and anxiety disorder comparative to substance use problems finding that in the majority of cases these internalizing disorders tend to precede SUD. This was supported by examining studies that have reported risk relationships. These showed that internalising disorder generally increased the risk of developing SUD (O'Neil, Conner & Kendall, 2011).

Methodological limitations

One of the methodological issues in coexisting disorders research is related to the timing of diagnostic interviews. Variation in when these occur may lead to differences in whether participants are drug and alcohol free or otherwise, which then may have effects of their presentation and reporting. For example symptoms (and diagnosis) of depression are often significantly less severe two weeks after admission to hospital (and abstinence) in those with alcohol dependence compared to 2 days after admission (Dackis, Gold & Pottash, 1986). A study examining the impact of the timing of interviews has demonstrated differences across a series of reports (Weiss, Mirin & Griffin, 1992). In adolescents in particular, the early stages of treatment can feature quite rapid and significant changes in presentation and problems (Bukstein, Bernet, Arnold et al., 2005).

Linked to this are differences in the structured interviews that are used. As DSM and ICD criteria change over the years, so do the interviews and the nature of the diagnoses that they yield. Some interviews, designed for lay researchers, are more structured than others and have been criticised for 'over diagnosing' disorder. Semi-structured interviews tend to reduce this bias however they are arguably more 'operator' dependent.

In addition different interviews 'handle' the diagnosis of disorders in variable ways, potentially leading to differences in reported prevalence (Weiss et al., 1992). One example

of a potential source of bias is the way that different structured interviews investigate and differentiate independent disorder from substance-induced disorder. A further complicating factor is the fact that some substance abuse causes symptoms resembling psychiatric syndromes; for example, the catecholamine mediated fight or flight response caused by stimulant abuse is similar to that seen in panic disorder. A key symptom of alcohol withdrawal is anxiety and this, in an alcohol dependent teenager without regular access to alcohol, may present as a persisting anxiety problem that, upon detoxification, disappears completely. Related to this, and discussed later in this thesis, is the important issue of whether DSM-IV criteria (which are largely derived from adult research) are indeed relevant in adolescent populations.

Information collected via structured interview from teenagers is potentially less reliable compared to adults because the power imbalance, in terms of the researcher/participant relationship, is greater (assuming the researchers are adults) than for adult participants. In addition adults are also more likely to be familiar with an interview situation by virtue of their greater life experience. This is arguably less of a problem with research in young people attending treatment services, as these young people will probably have experience of 'assessment' processes and will be, to some extent, prepared for an interview. That said, the issue of power imbalance remains significant in youth research because substance use is more likely to be perceived as 'rule-breaking' by adolescents than by adults, affecting the extent of disclosure.

Because of this, the assumption that structured interviews are the gold standard for epidemiological research needs to be balanced with other considerations particularly in youth populations. In young people the value of self-reported measures is that they overcome some of the issues related to confidentiality and unfamiliarity of experience that participating in a structured interview might create. Taking as an example a hypothetical case of a 13 year old male undergoing a structured interview process shortly after being admitted for the first time to a Youth Justice facility, the process of filling out a paper questionnaire (or computerised one) is likely to be significantly less daunting than a structured interview. On the other hand this example could also be used to demonstrate numerous drawbacks related to self-report measures, including issues related to literacy and inattention. Of interest is the fact that one of the studies reported above used both structured interview and a self-report measure, the Personal Experience Inventory (PEI), and found little difference in prevalence rates of disorder between the two measurement types (Latimer et al., 2002).

Most of the information about comorbidity and other psychosocial problems encountered by adolescents presenting to substance use services comes from research on populations in the United States, which confers some limitations with regard to its applicability to the New Zealand situation. Substance use disorder services for adolescents in New Zealand are still developing and there are few established inpatient and residential programmes for adolescents.

2.7. Conclusions

The prevalence of mental health disorder in young people attending outpatient AOD treatment services is high, in the order of 50% - 88% and this compares to rates seen in community populations of 44% to 68%.

Although conduct disorder occurs most, this may be a function of the fact that it is more common in males who tend to dominate referrals to outpatient AOD services. Mood disorders are seen more often in females. Rates of PTSD are almost as high as mood disorder and are the most common of the anxiety disorders. Comorbid mental health disorder is more frequent in younger adolescents with SUD compared to their older counterparts. Comorbid mental health disorder also occurs less frequently in outpatient populations than in inpatient populations but it remains higher than in the general population.

3. Comparing self-reported morbidity in CAMHS and AOD services

3.1. Introduction

As discussed in the previous chapter, there is enough evidence to be confident in the assertion that young people accessing AOD services have high levels of mental health comorbidity; higher than young people in community settings and similar to those in mental health settings. In 2004, when the research detailed in this following chapter was conducted, there were no studies confirming this in a New Zealand or Australian context.

This chapter describes a research study that investigated the mental health, substance use and other psychosocial morbidity of young people attending different types of treatment agencies in Auckland (Christie, Merry & Robinson, 2010). My workplace, a specialist outpatient AOD service 'CADS Altered High Youth Service' and the setting for the research, was a relatively new kind of service beside the more established Child and Adolescent Mental Health Services (CAMHS) that had been operating for decades. With few similar AOD services in New Zealand (and indeed internationally) it was an excellent opportunity to better understand young people's service needs and inform future development of youth services.

As described previously reported co-existing substance use and mental health disorder in inpatient and residential settings occurs in the order of 62 –82% (Grilo, Becker, Walker et al., 1995; Hovens, Cantwell & Kiriakos, 1994; Stowell & Estroff, 1992; Wise et al., 2001). SUD in youth populations attending outpatient mental health services occurs in 11 – 40% of adolescents (Greenbaum et al., 1991; King et al., 2000; Kramer, Robbins, Phillips et al., 2003; Wilens, Biederman & Spencer, 1994). Research in outpatient addiction services, though less common, is arguably more important, as community addiction treatment is as efficacious as and more cost-effective than residential treatment (Morral, McCaffrey, Rigeway et al., 2006).

At the time the research was conducted there were only a few studies looking at morbidity in populations attending outpatient youth addiction services and no direct comparisons with mental health services. One US study had directly compared the prevalence of substance use disorder in substance use versus mental health services (with SUD occurring at rates of 82.6% in addiction services compared to 40.8% in mental health services) but the substance

use service cohort combined young people from both residential and outpatient services limiting the usefulness of this as a comparison (Aarons et al., 2001).

In this naturalistic study I described and compared the self-reported substance use, mental health difficulties and psychosocial morbidity in a cross-section of young people attending an outpatient youth addiction service with that reported by young people attending an outpatient child and adolescent mental health service (CAMHS). The two types of services were similar in structure (multidisciplinary teams) and based in the same health provider hence shared many pathways and procedures, however there were key differences in the way young people accessed and entered the two services. Importantly the AOD service was easily accessible (with less stringent entry criteria) and had a focus on engagement. We were interested in whether this impacted on the case-mix (as measured by self-reported problems) of the clients who attended. The study had potential to be an important contribution to understanding how populations attending AOD and CAMHS services might differ.

3.2. Methods

Population

The study population comprised a naturalistic cross-sectional sample of 14 - 18 year old males and females accessing either an outpatient CAMHS or an outpatient AOD service in Auckland, New Zealand. Both services were multi-disciplinary and part of provider arm health services for the area. The CAMHS was one of a number of similar services in Auckland however the AOD service was the sole outpatient addiction service for the region.

Existing and new clients attending a treatment session at the services were recruited for the study by their case-workers sequentially over a period of 3 months. There was no randomisation as a full cross-section was sought until an adequately powered sample size for valid statistical comparison was reached. A sample size of 65 for each group was calculated as having 90% power (at 0.05 level of significance) to detect a true difference of 10% in the DUSI-R (see later for description) total problems domain score.

Information about the study was given to potential participants at least seven days prior to the research and passive parental consent was sought. Written informed consent was obtained from participants on the day (see Appendices 3 – 6). The Ministry of Health

Auckland Ethics Committee approved the study, reference AKX/02/00/181 (Appendix 2). Please see Chapter 5 for further discussion regarding consent issues.

Instrument

Participants completed the Drug Use Screening Inventory-Revised (DUSI-R) and a demographic form (see Appendix 7 & 8). The DUSI-R is a validated self-report instrument that is in the public domain (Kirisci, 1995). It consists of 159 questionnaire items to which the respondent answers Yes or No. It takes approximately 10 -15 minutes to complete. The DUSI-R is designed to yield practical information by quantifying severity of problems in 10 domains of psychosocial functioning including: drug and alcohol use, behaviour, health, psychiatric symptoms, social competence, family issues, schooling, work and occupational adjustment, peer relationships, leisure and recreation. Recommended uses of the DUSI-R include intake evaluation, intervention monitoring, outcome assessment and program evaluation. The DUSI has been validated in adult and adolescent treatment populations in the United States (Kirisci, 1995) and in Brazil (De Micheli & Formigoni, 2000). The results of testing in a community sample of NZ school students have also been reported (Dolan, 2001). Internal reliability of the DUSI-R has been reported as 0.76 (Tarter & Kirisci, 1997).

Procedures

DUSI-R questionnaires were completed by participants in the usual location of the counselling or assessment session i.e. in the client's own home, at school, at a community alcohol and drug unit or at CAMHS offices. Completed questionnaires were then collected and identifying information removed. Young people who were unable to complete the questionnaire despite assistance from their clinician were excluded. This group included clients who were acutely unwell, intoxicated, had no English and difficulty using interpreting services, or low IQ. Information about the demographics of those who did not wish to participate or were excluded from the study was obtained and reasons for non-participation recorded. A protocol document outlining the required procedures for involved clinicians is available as Appendix 1.

Data analysis

Descriptive statistics were used to summarise the characteristics of the two participant groups and of the non-participants. T-tests and chi squared tests were used to establish if there were differences in the demographics of the groups. Means and standard deviations of each group's domain scores were ascertained to provide an overview of the self-reported morbidity in each group. Independent t-tests were used to investigate differences in mean scores between the two groups. Given the exploratory nature of the study I made no correction for multiple comparisons of measures (though I would add that this was a matter of some debate amongst statisticians). Data were dichotomized to categorise cases depending on severity of problems and compare them across the services. Published norms and sensitivity for the DUSI-R indicate that a score of greater than 27% on the substance use domain correctly classified 92% of candidates with a diagnosis of substance use disorder obtained by structured interview (Kirisci, 1995). We took a score of 30% in the substance use domain and the psychiatric symptoms domain as a cut-off to estimate substance use disorder and mental health disorder respectively.

3.3. Results

The sample's characteristics are shown in Table 5. There was no significant difference in the age (t-test) and gender (chi square) of the participants recruited to each service group. The proportion of Maori and Pacific Island participants in the addiction service was higher compared to CAMHS (exact probabilities test, $p = 0.02$). The ethnicity of the general population of New Zealand is provided in the table for comparison (Statistics New Zealand, 2007).

All young people attending the two services over the period of the research were approached to participate and only 18 (12%) did not participate. De-identified demographic data and the reason for their non-participation was recorded by the clinician. Those not able or willing to participate were not significantly different from participants except in terms of ethnicity (see Table5). Reasons for not participating were as follows; 10 refused (7%), 2 couldn't participate on account of illness and 6 participants were judged not competent to consent.

Table 5: Demographics of participants in Addiction service vs. CAMHS and Participants vs. Non-participants (n = 149)

	Addiction service (n = 67)	CAMHS (n = 64)	All participants (n = 131)	Non-participants (n = 18)	NZ population data (%)*
Female n (%)	30 (44.8)	34 (53.2)	64 (49.9)	8 (44.4)	
chi ² (p value)		0.91 (0.34)		0.12 (0.75)	
Ethnicity n (%)					
European	45 (67.2)	54 (84.4)	99 (75.6)	11 (61.1)	(58)
Maori	15 (22.4)	4 (6.3)	19 (14.5)	4 (22.2)	(16)
Pacific Island	4 (6.0)	1 (1.6)	5 (3.8)	1 (5.6)	(9)
Other	3 (4.5)	5 (7.9)	8 (6.1)	2 (11.1)	(17)
Exact probabilities test (p value)		(0.02)		(0.05)	
Age years, M (sd)	15.6 (1.2)	15.8 (1.3)	15.7 (1.3)	15.5 (1.4)	
t score (p value)		0.97 (0.33)		0.63 (0.53)	

n = number; CAMHS = Child and adolescent mental health service; M = mean; sd = standard deviation; * (Statistics New Zealand 2007)

The DUSI-R, as detailed above, measures self-reported symptoms and functioning across ten domains. Table 6 displays the means and statistical comparisons for the domain scores of the participants from each service. T-tests comparing the mean scores in each domain revealed that the young people attending the addiction service reported similar levels of problems to those attending the mental health service. Their scores were significantly higher ($p < 0.05$) in the substance use problems, peer relationships and school functioning domains indicating more problems. The distribution of scores in the substance use domain and the work problems domain was slightly skewed, however non-parametric analysis (Mann-Whitney U) for these two domains yielded very similar results thus parametric statistics are reported only. Data from a U.S. sample of adolescents with diagnosed substance use disorder is also included in the table for comparison (Kirisci, 1995).

Table 6: Comparison of mean DUSI-R domain scores for young people attending the Addiction service and CAMHS

	Addiction service (n = 67)	CAMHS (n = 64)		US youth with SUD (n = 259)*
DUSI-R domain scores %	M (sd)	M (sd)	T score (p value)	M (sd)
substance use problems	49 (28)	29 (27)	4.1 (< 0.001)	54 (30)
behaviour problems	40 (19)	42 (21)	-0.5 (0.63)	47 (22)
health	37 (20)	36 (21)	0.3 (0.80)	36 (20)
psychiatric symptoms	45 (21)	50 (20)	-1.5 (0.14)	42 (22)
social competence	31 (21)	35 (24)	-1.2 (0.24)	31 (21)
family system	45 (21)	39 (26)	1.3 (0.19)	44 (21)
school performance	52 (27)	42 (25)	2.2 (0.03)	52 (24)
work functioning	20 (23)	20 (21)	0.8 (0.94)	24 (21)
peer relationships	56 (26)	43 (26)	2.9 (0.005)	58 (21)
leisure & recreation	50 (22)	46 (24)	0.9 (0.37)	47 (23)
total problems	43 (17)	39 (18)	1.3 (0.21)	45 (16)

The higher the percentage score in a domain the more problems reported; CAMHS = Child and adolescent mental health service; SUD = Substance use disorder; M = mean, sd = standard deviation; *(Kirisci, 1995)

To estimate 'substance use disorder' (SUD) in the two populations we dichotomized the data to identify 'cases'. Taking a score of 30% as indicating caseness for 'SUD' we found that 73% of those in the AOD service had 'SUD' compared to 44% of those in the CAMHS. This difference between the two services was statistically significant (chi square analysis; $p < 0.001$).

Table 7: Estimated 'substance use disorder' and 'mental health disorder' in CAMHS and Addiction services

	Addiction service (n = 67)	CAMHS (n = 64)	chi ² (p)
'substance use disorder'* (%)	49 (73)	28 (44)	11.7 (< 0.001)
'mental health disorder'** (%)	48 (72)	49 (77)	0.4 (0.52)
'co-existing disorder'*** (%)	42 (63)	26 (41)	6.4 (0.01)

*substance domain score >30; **psychiatric symptoms domain score >30; ***substance and psychiatric domain scores >30

To examine co-existing self-reported substance use and mental health symptoms in our two populations we estimated the prevalence of psychiatric morbidity using the DUSI-R psychiatric symptoms domain. Using a score of 30% in the psychiatric symptoms domain, the difference between the two groups in estimating 'mental health disorder' was not significant ($p = 0.52$). When estimating 'co-existing disorder' (i.e. both 'mental health

disorder' and 'SUD') we found significantly higher rates ($p = 0.01$) in the AOD service (63%) compared to the mental health service (41%). Table 7 displays the results of this analysis.

The DUSI-R includes a lie scale that provides a score out of ten. The mean (standard deviation) lie scale score was slightly higher for the mental health service participants at 2.25 (0.24) than the substance use participants, 2.00 (0.22), but this difference was not significant suggesting that both groups answered the questionnaire with equivalent (and reasonable) honesty.

3.4. Discussion

This study was one of the first to directly compare self-reported symptoms and psychosocial functioning of adolescents attending an outpatient addiction service to those attending an outpatient mental health service. The key finding was that the level of self-reported morbidity in the two services was very similar. The higher self-reported morbidity reported in the substance use domain by the addiction service adolescents was unsurprising and the difference in the school performance domain scores ($p = 0.03$) was less convincing when it is considered that no adjustment was made for multiple comparisons.

The morbidity, as measured by the DUSI-R total and subscale scores in our addiction service sample, was not dissimilar to that reported in the US study reporting normative data for the DUSI-R in 259 US youth (mean age 15.9) with SUD (Kirisci 1995). That our sample had slightly lower scores in the substance use and behavioural problems domains (see Table 6) than their American counterparts is not unexpected considering our sample was a full cross section of young people and, unlike the US study that selected only young people with a SUD diagnosis, would have included a range of young people, some without SUD.

When we compared estimated co-existing mental health and AOD problems in each population we found significantly higher rates in the addiction service. Even though the DUSI-R scoring system does not group self-reported mental health symptoms in a way that allows identification of specific types of mental health problem (such as externalising disorders versus internalising disorders), our results were similar to other studies which have examined co-existing disorder via structured interview. Substance use disorder (SUD) in young people attending outpatient mental health services occurs in 11 – 40% of adolescents (Greenbaum et al., 1991; King et al., 2000; Kramer et al., 2003; Wilens et al., 1997) and up to 82% in addiction services (Hser et al., 2001; Turner, Muck, Muck et al., 2004). The rate of

'estimated SUD' in our CAMHS population was 44% and in addiction service clients, 73%. Tims et al reported mental health disorder (excluding SUD) in 75% of adolescents attending treatment for cannabis problems (Tims et al., 2002). Similarly, our study demonstrated an estimated mental disorder prevalence of 72% in those attending the addiction service.

Manning et al have reported on a study similar to the one presented in this chapter but in an adult population. It compared 50 adults presenting to mental health services to 50 adults presenting to substance misuse services (Manning, Strathdee, Best et al., 2002). Similar to my study, they trained clinicians working with clients to use a screening tool that detected problematic alcohol and other drug use, psychosis and other mental health problems. Bearing in mind the instrument that they used was a screen (and not a standardised questionnaire) they found rates of 'dual diagnosis' (a positive screen for both substance use disorder and mental health problems) of 64% across the whole sample. Similar to our findings, they reported higher rates of dual diagnosis in those attending substance use services (90%) than in those attending the mental health service (38%).

The finding of significant SUD co-morbidity in young people attending CAMHS has implications with regard to how CAMHS address SUD and provide integrated treatment in their clients. Young people with co-occurring disorder do less well in treatment than those with mental health disorder alone (Baker, Lubman, et al., 2007) and need specialised approaches (Lubman et al., 2010). Similarly, the high rates of co-morbidity in addiction services mean that interventions to manage mental health problems in their clients need to be a priority. Not unsurprisingly young people with substance dependence have higher rates of co-occurring problems than their counterparts with just substance abuse (Chan et al., 2008).

This finding of equivalent (or greater) co-morbidity in the addiction service clients is of interest as in New Zealand, and in many other jurisdictions, CAMHS are usually under the umbrella of government health providers, whereas addiction services are more likely to be administered by non-government organisations. Largely because of historical reasons clinicians in the addiction field are less likely to have formal training and tertiary qualifications than those working in mental health (Libretto, Weil, Nemes et al., 2004) despite recognition that they need varied and high level skills (Schubert, Pond, Kraft et al., 2004). The similarities between the young people in both services suggests that effective services in each specialty are likely to require a similar level of staffing expertise and workforce development initiatives will need to reflect this in the future.

Limitations

There were a number of limitations to this study. Firstly the DUSI-R is an instrument designed for youth presenting for AOD treatment. Using it as a means to compare adolescents attending substance use services with other groups is potentially problematic as it may select for the substance abusing population above the mental health population on account of its design. Further examination of the questions that make up each of the domains sheds light on the extent of this possible bias. The four domains that examine behaviour, physical health, psychiatric symptoms and social competency have no questions that refer to substance use (and no significant difference was found between the two groups across these domains). Only the peer relationships domain and the work adjustment domain have a substantial minority (30%) of items that refer to substance use. In total, excluding the first substance domain, only 13/134 (9%) of the other questions making up the DUSI refer to use of substances. When this is considered with the result that 40% of the psychiatric population scored over 30% in the substance use domain score, it would appear that the effect of this potential bias on the individual domains scores is unlikely to be significant.

One further limitation of the study is the cross-sectional design which could lead to a bias related to the length of time young people were in treatment. Although approximately 40% of the clients in each service were 'treatment starters' it is possible that young people in the mental health service had been in treatment longer than those in the addiction service possibly leading to the appearance of decreased morbidity in this group. In light of this we interpreted the results conservatively, emphasising the similar level of morbidity in each group, rather than the differences. Furthermore it is worth noting that our results are not dissimilar from other research in this area as detailed above.

The DUSI is a self-report instrument and it could be argued that using a structured interview to yield formal diagnoses would have improved the validity of the findings. However in view of the dearth of other studies comparing comorbidity between these two groups of service users our findings remain important. Criticisms of self-report measures include that they are subjective, run the risk of being misinterpreted and rely on a certain level of understanding and honesty from the subjects completing them. On the other hand, studies have questioned the validity of standardised interviews because they produce surprisingly high prevalences of drug and alcohol use problems in young people (Bukstein et al., 2005;

Hodges, 1993), and the validity of DSMIV diagnosis in adolescents remains controversial (Harrison, Fulkerson & Beebe, 1998).

Self-report instruments remain useful as a tool to obtain comparative data (as was the primary aim of this study) and research is increasingly demonstrating that reliable information about young peoples' substance use is best accessed directly from young people themselves (Fisher, 2006; Wilson, Sheritt, Gates et al., 2004). A self-administered test is less likely to be influenced by anxiety and factors relating to the interviewer/interviewee relationship, which is important in populations of adolescent illicit substance users who may be somewhat suspicious of the research process in view of issues related to confidentiality. As a tool for describing subjective problems and difficulties, self-report scales provide a unique, client based perspective, which is of particular value when the information is used in the development and improvement of services.

3.5. Conclusions

Our study demonstrated that New Zealand young people attending outpatient addiction services report a similar level of difficulties to young people attending mental health services across a number of areas of psychosocial functioning including psychiatric symptoms, behavioural problems, social competency, health problems, family problems, peer relationships, difficulties in work functioning or in their leisure time. Furthermore they report more problems with substance use, school performance and peer relationships. The similarities between the two groups were interesting in light of differences in the way young people in this study accessed services. Our results suggest that addiction services with an engagement focus and minimal barriers to access still attract young people with morbidity and complexity equivalent to those attending mental health services. This has implications with regard to future development of addiction services suggesting that workforce development will need to be comparable to that seen in mental health services. The importance of screening for AOD use effectively in young people accessing mental health services was also demonstrated clearly by this study. This study set the stage for the research detailed in subsequent chapters that was aimed at facilitating better AOD screening in CAMHS.

4. The Substances and Choices Scale – preliminary instrument design

4.1. Introduction

The experience gained from conducting the research described in Chapter 3 included that despite the many youth AOD instruments available, finding one that could be used easily in day-to-day practice, and with no financial cost, was difficult. The clinical problems encountered when using the Drug Use Screening Inventory (DUSI), the instrument chosen for the research were significant. This provided motivation to design an AOD instrument purpose built for New Zealand.

At this time there was considerable impetus coming from the Ministry of Health regarding the implementation of routine outcome measurement in services. Investigations into optimal instruments for use in CAMHS were underway. Coinciding with this was the release of a request for a proposal for the design and testing of a youth oriented AOD screening instrument. A research team was assembled, with myself as principle investigator, and was successful in gaining substantial funding for the 'SACS project.' The research process that followed over the next three years was a substantial undertaking and its various steps are described over the next four chapters of this thesis.

We undertook to design a new brief substance-focused screening and outcome measurement instrument called the Substances and Choices Scale (SACS). This proposed new instrument, the SACS, would be required to screen for, and measure change in substance use behaviour in youth and be valid and acceptable for clinical and community populations of young people including Māori and Pacific youth. We wanted to design it so that it could be used in tandem with an established child and adolescent mental health instrument called the Strengths and Difficulties Questionnaire (SDQ) and the rationale for this is discussed below. Use of the two instruments together was intended to enable a broad overview of a young person's functioning, including their mental health symptoms, psychosocial difficulties, prosocial behaviour and substance use problems.

The aim of the first part of the SACS project detailed in this chapter was to assemble questionnaire items that would contribute to the SACS instrument. This initial stage involved reviewing the literature around screening and outcome measurement in young people, collecting and critiquing established AOD instruments and designing questionnaire items for the proposed instrument.

4.2. Limitations of youth AOD instruments available at the time

A number of AOD instruments have been designed specifically for use in adolescent populations. Many of these have some research providing limited data about their psychometric properties but very few have enough information to give a user confidence about the instruments' reliability and validity. For example there may be information about an instrument's internal reliability, but test-retesting has not been reported. Furthermore, even from brief appraisal of many of the instruments, problems with their routine use are easily anticipated.

A selection of youth AOD instruments and their relevant attributes are summarised in Table 8. In the last three columns of the table I have recorded a brief assessment of the psychometric data available on the instruments (each instrument being rated A, C or E in terms of its adequacy) to illustrate the completeness or otherwise of the data available. This assessment is not a formal or exhaustive examination of each instrument and more thorough reports examining various instruments in depth are available (ALAC, 1996; Farrow, Smith & Hurst, 1993; Winters, 1999a).

Table 8: The properties of established screening and outcome measurement instruments

Instrument	Number of items	Mins to complete	Cost	Dimension	Outcome measure	Reliability data	Validity data
PESQ (Winters, 1992)	38	15	Yes	Alc/Drug	C	A	C
DUSI (Kirisci, 1995)	149	35	Yes	Alc/Drug	C	E	C
ADI (Winters, et al., 1993)	24	5	Yes	Alc	C	A	A
DAPQS (Schwartz, et al., 1990)	30	10	Yes	Alc/Drug	E	E	E
ADIS (Moberg & Hahn, 1991)	13	10	No	Drug	C	C	C
AAIS (Moberg, 1983)	14	10	Yes	Alc	C	E	E
POSIT (Knight, et al., 2001)	139	15	No	Alc/Drug	C	C	C
Crafft (Knight, et al., 2003)	6	3	No	Alc/Drug	E	A	A

PESQ = Personal Experience Screening Questionnaire; DUSI = Drug Use Screening Inventory; ADI = Adolescent Drinking Index; DAPQS = Drug and Alcohol Problems Quick Screen; ADIS = Adolescent Drug Involvement Scale; AAIS = Adolescent Alcohol Involvement Scale; POSIT = Problem Oriented Screening Instrument for Teenagers; Alc = Alcohol use; Drug = Drug use; A = Good, C = Adequate, E = Inadequate

One problem with some available instruments is related to length and completion time. Young people report that they want to spend five minutes or less on completing questionnaires (Merry et al., 2004). Instruments such as the Drug Use Screening Inventory-Revised (DUSI-R) (Kirisci, 1995) or the Problem Oriented Screening Instrument for Teenagers (POSIT) (Latimer, Winters & Stinchfield, 1997), with 90-150 items to answer, are too long

and unwieldy for use as a brief instrument or screening test. Our experience of the use of the DUSI instrument from young people and clinicians alike was that filling out the three pages of small font yes/no questions was somewhat intimidating for young people and following the research there was no enthusiasm from the clinical teams involved in the research to continue to use similar instruments.

The Personal Experience Screening Questionnaire (PESQ) (Winters, 1992) and the Substance Abuse Subtle Screening Inventory (SASSI) (Miller, 1997) are shorter instruments (30 – 50 items) and have relatively robust psychometric properties but their use involves considerable cost. Although this cost, at approximately one US dollar a test, may seem reasonable when compared to other psychometric instruments such as those used for IQ testing or rating ADHD symptoms, the needs of New Zealand at the time were for an instrument that could be used routinely for every young person coming through a service. There was little doubt that the need to further redistribute scarce resources into screening instruments would be a significant barrier to use, especially as the uptake of effective screening and outcome measurement practices in mental health services at the time was poor. Positive ways to change behaviour of clinicians and services (to promote more outcome measurement) were being explored however convincing services and clinicians to use a new instrument is one thing, getting them to pay for it, another step entirely.

Some other youth AOD instruments have been designed to screen for either alcohol *or* drugs (rather than both) and as young people are mostly polysubstance users (Deas et al. 2000), routine use for screening would require two different instruments, complicating the process for clinician and consumer alike. For example combining the 'AUDIT' (World Health Organisation, 1993) with the 'DAST' (Gavin, Ross & Skinner, 1989) would not make for a seamless and consumer friendly process with their competing formats and repetition of content.

Other instruments were too limited in their range. For example the CRAFFT instrument is an example of a simple and psychometrically sound youth AOD screening instrument that has limitations regards its use for anything more than screening in view of its time frame (it asks about substance use over a lifetime ('Have you ever used...')). Its brevity (consisting of only 6 questions) is also a limitation.

4.3. Routine outcome measurement in mental health and addiction services

In 2004, at the time the SACS instrument was being conceived, outcome measurement was an increasing focus of mental health services in New Zealand. In particular, the challenge of gaining a good consumer perspective was a key concern (Gordon, Ellis, Haggerty et al., 2004). Characteristics of ideal consumer outcome measurement systems were being debated at the time and discussed in a number of published reports (Andrews, Peters & Teesson, 1994; Bickman, Nurcombe, Townsend et al., 1999; Deering, Robinson, Adamson et al., 2004; Gaines et al., 2003; Mellsop & O'Brien, 2000; Merry et al., 2004). In the 1999 Bickman report 'Consumer Measurement Systems for Child and Adolescent Mental Health' (Bickman et al., 1999) the qualities of an ideal instrument were identified as *"sustainable, feasible, comprehensive, flexible, psychometrically sound, developmentally and culturally sensitive, and able to improve clinical effectiveness"*. Stakeholders involved in Bickman's study also identified brevity, simplicity and 'user-friendliness' as important attributes.

In New Zealand the 'Mental Health - Standards Measures of Assessment and Recovery' (MH-SMART) project was a Government initiative that aimed to promote and guide the implementation of routine outcome measurement throughout mental health and AOD services (Te Pou, 2010). Since this time, this initiative has developed and is now subsumed under a new initiative, the 'Programme for Integration of Mental Health Data' or PRIMHD (Beveridge, Papps & Bower, 2011; Ministry of Health, 2005). The focus of PRIMHD is no longer quite as broad and has less focus on the collection of consumer-rated outcome information as there was initially.

A report, 'Child and youth outcome measures: Examining current use and acceptability of measures in mental health services and recommending future directions' (Merry et al., 2004), published at the time the SACS project was being conceived, included recommendations regarding screening and outcome measurement tools for New Zealand CAMHS. The Health of the Nation Outcome Scales for Children and Adolescents (HoNOSCA), a clinician rated instrument (Gowers, Harrington, Whitton et al., 1999), and the SDQ (Goodman, Ford, Simmons et al., 2000), a consumer rated instrument, were recommended as the instruments of choice. The SDQ is a consumer rated instrument that is free and has reasonable psychometric properties. Qualitative research evaluating its acceptability in young people (including Māori youth and whanau) parents and treating clinicians was overwhelmingly in its favour (Merry et al., 2004).

However promoting the use of the SDQ more generally across mental health services was potentially problematic in terms of addressing comorbidity. The SDQ assesses mental health symptoms and general functioning effectively, but does not measure substance use behaviours or their implications. As previously discussed, SUD occurs in about 40% of adolescents attending psychiatric services and those with SUD have higher risk of multiple mental disorders than their non-substance abusing counterparts (Grilo et al., 1995; Hovens et al., 1994; Stowell & Estroff, 1992). Furthermore these findings from overseas studies were confirmed in a New Zealand context by the cross-sectional study described in the previous chapter, which found rates of 'dual diagnosis' of 40% in CAMHS clients (Christie et al., 2010). Despite its high prevalence, research has long demonstrated that SUD is under recognised in primary care (Cheeta, Drummond, Oyefeso et al., 2008) and clinical psychiatric samples (King et al., 2000; Baker, Kay-Lambkin & Lewin, 2007).

As many New Zealand young people access mental health and AOD treatment through CAMHS, the introduction of the SDQ in these services had the potential to inadvertently reinforce the status quo; that of substance use difficulties tending to be overlooked in CAMHS clients. The introduction of an AOD instrument that could be used in tandem with the SDQ was one way to protect against this, however any complementary instrument would need to fit seamlessly with procedures in place for collecting MH-SMART outcome data. In light of the research regarding the acceptability of the SDQ (Merry et al., 2004) it was clear that an AOD instrument similar in structure and format to the SDQ, that could be easily completed, was likely to be acceptable to its intended population.

4.4. Attributes of an effective youth AOD instrument

Attributes of a useful and effective youth AOD screening instrument include brevity and simplicity, as the point of screening is that it can be performed quickly and easily. 'Youth appropriateness' and acceptability to young people are of course key, as it is well established that instruments designed for adults are not ideal for use in adolescents for myriad reasons, discussed further below (Clark & Moss, 2010; Deas, Riggs, Langenbucher et al., 2000; Winters, 1999a).

We intended our instrument to explore the frequency of use of specific substances over a time period, and also assess the impact and symptomatology associated with substance use in general. It needed to be able to measure functioning across a broad range of areas

including schooling or occupational functioning, family and peer relationships, as well as account for any comorbid mental health problems (Tarter et al., 1997).

The instrument's ability to provide a 'diagnosis' of substance use disorder was less important as this is of questionable clinical utility in young people in light of the controversy around applying DSM-IV SUD diagnoses in adolescents (Deas et al., 2000; Fulkerson, Harrison & Beebe, 1999), an issue which is discussed in detail later. In addition, labelling young people with 'disorder' early in their substance use career is often unhelpful, especially as treatment decisions are as often based on factors such as harmfulness of use and motivation to change, as they are on 'severity' of disorder.

As a tool to measure outcome, an AOD instrument should be able to yield a wide range of scores that are sensitive to change and reflect a spectrum of severity of impairment so that progress can be meaningfully tracked over time. The ideal instrument would need to be acceptable for use in different cultures, easily accessible and free of charge.

Finally, and importantly, any instrument would need to be reliable and valid. Reliability refers to a test's consistency and ability to yield the same result (right or wrong) following repeated measurements, with a high degree of correlation being desirable. Validity refers to how well the test measures what it purports to measure.

4.5. Measuring AOD use problems in young people

The literature, although somewhat underdeveloped, is clear that the direct application of adult assessment and treatment modalities to adolescent populations is inappropriate in that it ignores the different circumstances of their developmental stage (Deas et al., 2000). Although some of the difficulties and consequences that young people experience are similar to those of adults, many are not.

Studies have shown that young people use substances in a different manner and for different reasons than adults. For example, significant changes in the pattern of substance use, including moderation and cessation, are more likely to occur in adolescence than in adulthood, when choice of substance and pattern of use have had time to become more firmly established (Johnson et al., 2009). Young people tend to use in a binge pattern that is dependent on availability of substances rather than particular preference (Bachman et al., 1997; Kaminer, 1999) and are also likely to use a number of different substances (Deas et al., 2000; Stewart & Brown, 1995) compared to adults, who are more likely to have settled on a

preferred substance. However, patterns of dependent use can become established more quickly in adolescents for substances other than alcohol. For example, clinical samples show higher rates of cannabis dependence than cannabis abuse, and high rates of tolerance symptoms (Winters, Latimer & Stinchfield, 1999).

Adult diagnostic systems, as represented by criteria detailed in ICD10 (WHO) and DSM-IV (American Psychiatric Association, 2000) remain the most universally accepted means to measure substance use problems. Despite their wide acceptance, the validity of the concepts of substance dependence and abuse have remained a matter of debate (Feingold & Rounsaville, 1995; Hasin, Grant & Endicott, 1990; Muthen, Grant & Hasin, 1993; Muthen, Hasin & Wisnicki, 1993). Indeed, thinking has progressed so much that changes in the way AOD disorder is classified are proposed in the next edition of APA classification manual DSM-V (American Psychiatric Association, 2010). With the validity of substance use disorder diagnoses being questioned in adults, it comes as no surprise that the issue is perhaps more contentious in adolescent populations.

The evidence that substance use problems in young people actually occur in two distinct patterns (as per the DSM-IV constructs of abuse and dependence) is not convincing. Lewinsohn found some support for the bi-dimensional abuse/dependence construct when measuring alcohol use in a community sample of 1507 14-18 year old high-school students (Lewinsohn, Rohde & Seeley, 1996) and other studies in clinical populations have provided some confirmation of the concept of dependence, but have struggled to verify the 'abuse' criteria (Martin, Kaczynski, Maisto et al., 1995; Winters et al., 1999).

A more recent study, in a large sample of 18,803 14-18 year olds, found that substance abuse and dependence is optimally structured as a unidimensional construct in adolescents (Fulkerson et al., 1999) whereby the accumulation of symptoms or criteria is indicative of increasing severity of problems. The authors recommended that a continuum model may be a better means to measure impact and severity of substance use in adolescents than current DSM-IV criteria. In addition, they felt that the identification of harmful use (that might lead to dependence) was a more useful clinical objective than simply identifying dependent use, which occurs uncommonly (in teenagers with alcohol problems for example) and is indicative of extreme problems.

4.6. Proposed content and structure of a preliminary SACS instrument

Whether or not one accepts or rejects the validity of current diagnostic constructs in young people (and adults), the actual symptoms and behaviours that constitute the concepts of substance abuse and dependence remain relevant, as many of them are indicative of significant problems or harm and these are described here.

When designing and selecting items for an adolescent instrument, we were mindful of the differences that have been shown in adolescents compared to adults, factors such as which symptoms are reported more frequently in young people, which symptoms are reported reliably, and which are indicative of significant problems. I reviewed the literature at the time to gain an up-to-date overview of those symptoms and consequences that are reliable indicators of problematic use in young people. Most of the available evidence examined the occurrence of DSM criteria in adolescent populations and these are abstracted in Table 9 for reference.

The findings from this review included that physical symptoms of alcohol dependence (such as tolerance and withdrawal) are relatively uncommon in adolescent populations (Harrison et al., 1998; Lewinsohn et al., 1996) as are physical and medical problems associated with alcohol use. These physical manifestations representing significant biological changes to brain structure and function usually take a period of years to develop (Martin, Langenbucher & Kaczynski, 1996; Stewart & Brown, 1995).

Table 9: DSM Substance abuse and dependence criteria

Brief substance dependence criteria	Abstracted DSM criteria
Tolerance	Need to consume more substance to get same effect
Withdrawal	Withdrawal symptoms or using to avoid/relieve withdrawal
Time	Excessive time spent obtaining, using or recovering from effects of substances
Activities	Reduction or cessation of important activities to use substances
Control	Using substances in greater amounts or longer than intended
Cut down	Persistent desire or unsuccessful attempts to reduce substance use
Physical	Continued use despite physical or psychological problems caused by use
Brief substance abuse criteria	
Social	Continued use despite social or interpersonal problems caused by use
Hazardous	Recurrent use when physically hazardous
Role	Intoxication leading to failure to fulfil obligations at school, work, home
Legal	Recurrent substance related legal problems

In addition, the concept of tolerance has relatively poor sensitivity and specificity as a marker for dependence problems in young people (Chen & Anthony, 2003; Chung, Martin, Winters et al., 2001; Chung, Martin, Winters et al., 2004) for a number of reasons, including that tolerance differs markedly from substance to substance (American Psychiatric Association, 2000) as well as between individuals (Chung et al., 2004), and that young people report the experience of tolerance unreliably (Chen & Anthony, 2003). Withdrawal symptoms are rare in adolescent users, are often reported unreliably and are usually psychological in nature (i.e. tiredness, anxiety, depression), thus they are at risk of being confounded by symptomatology of comorbid illness (Stewart & Brown, 1995).

There are also problems with the application of other diagnostic criteria. For example, negative social and occupational consequences are different for adolescents and adults, and diagnostic criteria such as '*continued use despite negative consequences*' and '*use leading to impairment in social and occupational functioning*' (American Psychiatric Association, 2000) are difficult to compare. The importance of 'loss of control' of substance use is difficult to assess in young people as they commonly use substances specifically with the goal of intoxication and dyscontrol (ALAC, 2002; Harrison, Fulkerson & Beebe, 1997).

Criteria that stipulate legal problems associated with use are also difficult to apply to those under the legal drinking age, as simply the purchase, or consumption in a licensed premises, of alcoholic drinks is illegal. Arguments as to whether this on the one hand appropriately labels a young person an abuser by virtue of their immaturity, or alternatively does not provide a useful indication of the severity of the young person's problems, ends up being coloured as much by the socio-political environment as scientific debate.

Table 10 and 11 provide information from four studies that have examined the frequency that DSM criteria have been reported in clinical and community populations of young people. The DSM criteria in the far left column are referenced as one word; the abstracted criteria detailed above in Table 9. Because of the difficulty comparing the numbers in the clinical populations columns against each other with the naked eye I have calculated combined percentage frequencies ($\sum \% \times n / (\sum n)$) for this table to facilitate the comparison of each criteria. This combined percentage is italicised in the final column of Table 10. I did not complete the same exercise for Table 11 as the frequencies range is narrower and easier to compare directly.

Table 10: Frequency of reported SUD DSM criteria in clinical adolescent populations

<i>Study</i>	<i>(Winters et al., 1999)</i>		<i>(Stewart & Brown, 1995)</i>			
Instrument	ADI		CDDR			
Substance	Alcohol	Cannabis	Alcohol	Cannabis	Amphetamine	<i>Combined %</i>
n	733	659	43	71	83	1589
DSM criteria %						
Tolerance	27	45	81	82	92	42
Withdrawal	16	47	40	56	82	35
Time	41	48	84	92	95	50
Activities	40	43	70	68	86	46
Control	49	46	84	69	78	51
Cut down	43	37	70	73	76	44
Physical	18	14	2	3	14	15
Social*	36	37	31	30	53	37
Hazardous*	24	28	62	59	74	33
Role*	12	22	74	97	96	26
Legal*	33	33	21	21	12	26

ADI = Adolescent Diagnostic Interview (Winters, 1992); CDDR = Customary Drinking and Drug Use Record (Brown, Creamer & Stetson, 1987); n = number; * = substance abuse criteria.

Table 11: Frequency of reported SUD DSM criteria in community adolescent populations

<i>Study</i>	<i>(Lewinsohn et al., 1996)</i>		<i>(Harrison et al., 1998)</i>	
Instrument	KSADS		DSM questions	
	Alcohol		9 th grade	12 th grade
n	1709		22,743	20,707
DSM criteria %				
	Male	Female		
Tolerance	10	9	16	20
Withdrawal	3	3	-	-
Time	5	6	11	14
Activities	11	10	4	4
Control	9	10	10	16
Cut down	7	6	13	10
Physical	1	1	1	1
Social*	6	6	16	16
Hazardous*	6	3	4	24
Role*	4	4	7	8
Legal*	3	2	2	2

KSADS = Kiddie schedule for the affective disorders and schizophrenia; n = number; * = substance abuse criteria.

From examining the frequencies it is immediately clear that some DSM criteria are reported rarely in young people. Physical symptoms, for example, are only reported in 15% of the clinical samples and in 1% of the community sample. On the other hand 'Excessive time spent obtaining, using or recovering from effects of substances' (Time) occurs in 50% of the clinical sample and 'Using substances in greater amounts or longer than intended' (Control) in 51%. In the community samples 'Continued use despite social or interpersonal problems caused by use substance use' (Social) is commonly reported, as is missing school or work (Role) and hazardous behaviour (Stewart & Brown, 1995).

Harrison's study (Harrison et al., 1998) provides perhaps the most representative sample for the purpose of examining the frequency of substance abuse and dependence symptoms in a community population of young people. One of the most important conclusions of this study was that multiple criterion symptoms are associated with the use of multiple drugs; i.e. if you are using a number of substances (as young people do) you are more likely to have increased number of DSM symptoms. Thus, the likelihood of meeting criteria for abuse or dependence was increased if using multiple substances. Again in this study, physical health problems and giving up activities were infrequent.

Finally, an important consideration was the best time-frame for the instrument and we decided to ask about functioning over the *previous month*. In the past, 90 days has been taken as an optimum treatment length for measuring outcome (Hser et al., 2001) however, in reality most young people stay in treatment for shorter periods than this (Dennis, Godley, Diamond et al., 2004). In addition young people's substance use fluctuates through the year, depending on exams, holiday periods, treatment engagement etc. and the expectation that a young person might accurately estimate their behaviour over a three month period is unrealistic. There is evidence that young people's recall of their substance use over a four week time frame is reliable (Kahler, Hustad, Barnett et al., 2008; Martin, Pearlman & Li, 1998). We intended for our instrument have utility in measuring outcome and this also contributed to the decision around this shorter time-frame.

4.7 The preliminary SACS instrument

A structure for the preliminary SACS instrument was determined that incorporated two sections. The first section was designed to measure the type and amount of substances that the young person had used over the last month. It consisted of three questions.

Question one recorded the *frequency of occasions of use* (within the last month) of a range of substances. In addition, an 'other drugs' category provided scope for young people to write in any other substances they had used over the previous month. These substances were listed in a similar format to those in the ASSIST screening instrument (WHO ASSIST Working Group, 2002) and included alcoholic drinks, cannabis, amphetamines, cocaine, ecstasy, hallucinogens, inhalants, opiates and sedatives. Questions two and three were designed to capture the *pattern of substance use* on the occasions reported in the first question. Question two recorded which *one* substance was used the most, and question three identified patterns of use in relation to this substance (e.g. '*just enough to help you relax and feel good*' or '*so much you got totally wasted*'). These statements were designed to identify levels of consumption at each occasion.

In the second section I sought to assess substance related symptoms, behaviours and consequences over the last month. Questionnaire items were designed in a similar format to the Strengths and Difficulties Questionnaire. The SDQ format is essentially a brief statement to which a response on a three-item likert scale ('not true', 'somewhat true' or 'certainly true') is requested. Twenty-eight individual statements, called SACS Difficulties Items, describing various behaviours and consequences of substance use were assembled for the preliminary SACS instrument (e.g. '*I took alcohol or drugs when I was alone*' and '*Other people have been concerned about my alcohol or drug use*'). The literature, as summarised above, shaped the nature and content of the items, however questions from established screening and outcome measurement tools were also collected and adapted to match the specific format of the 'Strengths and Difficulties Questionnaire' to create an extensive pool of possible items for inclusion. Please see Appendix 18 to review a copy of the Preliminary SACS instrument, which initially included 28 items.

4.8. Conclusions

The main findings of the literature included that a developmentally appropriate AOD instrument for young people should take into account the specific behaviours, consequences and harms that are commonly associated with substance use and abuse in young people. Adolescents present with different types of substance use difficulties from adults and the direct application of adult assessment and screening modalities is often inappropriate. The established DSM-IV constructs of substance dependence and substance abuse has not been demonstrated as valid for young people, rather a continuum model has been suggested as

the best way to measure impact and severity of substance use. An instrument consisting of questionnaire items that simply reflected current DSM criteria for abuse and dependence would be likely to yield a number of redundant items resulting in an inefficient instrument. Specific information about the kinds of problematic behaviours young people report most commonly was sought and from this 28 items were assembled that formed the basis for the SACS instrument.

5. The SACS - Consultation with clinicians and young people

5.1. Introduction

The previous chapter details the initial exploration of the literature informing the design of a preliminary SACS instrument. Once the SACS had been conceptualised and a prototype designed, the next step was to begin the process of seeking feedback. Although feedback was sought from various stakeholders throughout all stages of the development and testing of the SACS, it was most important in the early stages as it would lead directly to changes and improvements in the instrument.

At this stage of the research the aim was to get feedback on the preliminary version of the SACS instrument and explore the views of clinicians and young people with regard to the wording and content of the instrument. Specifically we were interested in the strengths and weaknesses of the instrument and wanted to identify omissions or important issues that may have been overlooked.

This stage also involved extensive examination of the face validity of the SACS items. Establishing good face validity involves checking that the items are interpreted as intended and is a fundamental early step in instrument item design and testing. Experts and clinicians working over many years in specialised fields of study can become accustomed to terminology and idiom that are likely to be quite alien to lay people. As such, designers of instruments are often in a poor position to determine how a person on the street might interpret language with which they are familiar. The implications of any misinterpretation are demonstrated in a qualitative analysis of respondents to the Short Form 36 Health Status Questionnaire (SF-36). This study found subtle but significant differences in peoples' understanding of what appeared to be very straightforward questions and recommended in-depth qualitative processes in the development and testing of instruments (Mallinson, 2002). Determining the face validity of items needs to be undertaken early on, as misinterpreted statements will impact on the instrument's reliability and validity and any other quantitative testing that occurs later on.

For instruments intended to be used by children and youth it is especially important to get this feedback, as the researcher or clinician is coming from a doubly removed perspective, that of being an expert, but also an adult. Aspects of youth culture including language can change in the time that an instrument such as the SACS takes to be developed hence the

importance of good investigation at this early stage to ascertain universal and common usage of terms that might be used. Complicating these language issues is the changeable nature of alcohol and drug terminology. Furthermore, the actual substances available for use alter each year. For example, recently we have seen the advent of synthetic cannabinoid substances such as 'Spice' (European Monitoring Centre for Drugs and Drug Addiction, 2009) which were not even available at the time of instrument development.

Finally, this stage of the research was important in terms of informing subsequent phases of the SACS development in terms of optimising the content, layout, terminology and structure of the instrument.

5.2. Methods

Consent issues

All stages of the SACS study were approved and overseen by the Ministry of Health Northern X Regional Ethics Committee; reference AKX/04/08/21 (Appendix 9). Information about the study was provided to potential participants at least seven days prior to the research and written informed consent obtained on the day (Appendices 12 & 17). Where appropriate, parents were informed and passive parental consent sought (Appendix 13). Parents were not informed if knowledge of the project might put at risk the engagement or safety of those adolescents who were attending for treatment without their parents' knowledge. The study raised a number of ethical considerations that are briefly discussed below, as they were an integral part of gaining ethical approval for the project.

Under the NZ Guardianship Act 1968 young people over 16 can consent to health care procedures. For under 16 year olds, issues around consent are more complicated and the legal position is governed by the Code of Health and Disability Consumer's Rights (Ministry of Health, 1996) and common law.

Generally, the ability of children to understand quite complex matters is underestimated. In a study which assessed the capacity to consent in groups of 9, 14, 18 and 21 year olds, the 14 year olds were as competent as the two adult groups (Weithorn, 1982). Consenting to filling out a self-report instrument is well within the competence of nearly all fourteen year olds. Guidance around the issue of consent in fourteen and fifteen year olds is gained from case law, the matter being carefully considered by the House of Lords in 1985. Mrs Gillick failed in her attempt to prevent her health authority from providing girls under 16 with

advice about contraception. The legal principle was that *'parental rights were derived from parental duty and existed only so long as they were needed for the protection of the person and property of the child. Parental right yielded to the child's right to make his own decisions when he reached sufficient understanding and intelligence to be capable of making up his own mind'* (Dyer, 1985).

The Ministry of Health document 'Consent in Child and Youth Health' provides further clarification of this issue. *'The court in Gillick did stress that practitioners should make every effort to encourage the child to involve his or her parents, in any medical decision. But if the child refuses to involve the parents, or if the parents refuse to give consent, the doctor can proceed to treat the child if satisfied that the treatment is in the child's best interests and provided that the practitioner is satisfied that the child/young person has the understanding and maturity to make the decision. The practitioner's judgement as to the child's level of maturity and understanding should be based on the individual characteristics of the child, not on some rule of thumb or fixed chronological age'* (Tuohy, 1998). The above sentiment is reflected in the Code of Health and Disability Services Consumers' Rights, (Right 7(2)) which creates a presumption of competence (Ministry of Health, 1996).

For all the research in this thesis that involved young people, we sought informed consent from all the participants. Clinicians working within the involved services collected information from participants. They were experienced working with youth and often already had a relationship with their clients. As such they would be expected to be good judges of the participant's capacity to consent, perhaps more so than an independent research assistant might be. The risk of coercion was, of course, present but because the actual researcher was not performing the data collection (and carrying out the study was in many ways extra work for the clinicians) there was little benefit to be gained from coercing an unwilling client. They were all briefed about the importance of enabling the youth to make his or her own decision about whether to participate or not.

We sought passive consent from parents. This method was preferable because of the nature of the subject matter. Alcohol and drug use is illegal in the age group that we studied and as such it is likely to be disapproved of by the youth's parents. Direct involvement of parents in the decision of the child to participate ran the risk of leading the youth to doubt the confidentiality of the study and theoretically might lead to misreporting on the self-completion questionnaires.

We did not seek consent from parents who were unaware that their child was receiving care from one of the youth services. This would have been a breach of confidentiality and trust and had the potential to be harmful. At the least, it might lead to disengagement of the client from the service and worse, it may put the youth in danger. Of course, the matter of not informing the parents needs to be considered in view of the fact that all services are actively seeking to involve families in the care and treatment of their clients and continue to do this on an ongoing basis throughout treatment. There are usually very good reasons for parents not to be involved in or aware of the care that their child might be receiving.

Related to this is the fact that this research was undertaken in the context of usual assessment and treatment. The questions in the SACS and related instruments do not address issues that are likely to raise significant safety concerns. However if any concerns did arise in the process of obtaining the data for the study these would have been acted upon in the same manner as would occur in the patient's usual treatment. As such, this may or may not have involved breaking confidentiality and informing parents/guardians.

Population

Consultation with three groups occurred in this study. This included a) *clinicians* working with young people in child and adolescent mental health, and alcohol and other drug services, b) *clients* or young people in AOD treatment and c) *non-AOD clients* or young people not in AOD treatment.

Clinicians

Email lists were used to contact health workers across New Zealand. Workers in the child and adolescent mental health field were contacted through the Werry Centre distribution list. Alcohol and drug staff were contacted via the Alcohol and Drug Workers distribution list and youth health workers through a youth health and development email forum.

Clients

Young people attending three treatment services from the Community Alcohol and other Drugs Service (CADS) service in Auckland were selected to participate in the consultation phase; Altered High, Te Ātea Marinō and Tuḅu. Altered High is a free, mobile, mainstream youth service that works with young people aged 13-20 years. Te Ātea Marinō is a regional AOD service that provides counselling and a range of other interventions for rangatahi,

whanau and Māori (including rangatahi/youth) whose lives are affected by alcohol and/or drugs. The Tuḅu service supports Pacific people and their aiga/fanau/ magafaoa who present with issues in relation to alcohol or other drug use. Both these cultural services provide treatment for 13 -18 year olds.

To be eligible to participate in this consultation *clients* had to be aged 13-18 years, a client of Altered High, Te Ātea Marinō or Tuḅu, able to complete the questionnaire without the assistance of their clinician and/or an interpreter, not displaying active and severe symptoms of mental illness that might interfere with their ability to complete the questionnaire and not intoxicated at the time of the research.

Non-AOD clients

The views of young people *not* in AOD treatment were also sought during the consultation phase of the SACS development. In order to access a mix of young people in one setting, the research team contacted the Youth Advisory Council (YAC). The YAC was established by Counties Manukau DHB Child and Youth Services in 2000 and has two key roles; to provide a forum for young people to express their views on the provision and development of health services, and to facilitate youth development. Members are recruited from local schools or colleges and health organisations (including a child and adolescent mental health service). At the time of the research, the YAC had 14 members aged 12 to 25 years.

Instrument

The 'Preliminary1' SACS instrument, developed via the process described in the preceding chapter was used with the *clinician* and *client* participant populations. The final part of the feedback stage (with *non-clients*) occurred following analysis of the results from the other participant groups and a slightly different version of the preliminary SACS instrument was used. This was entitled the 'Preliminary2' SACS instrument and was similar in format to the 'Preliminary1' SACS, but contained fewer SACS difficulties items (15 instead of 28). The structure and/or wording of a number of these items had also been amended, based on feedback provided by the 'clinicians' and 'clients' participant groups. See Appendices 18 and 19 for copies of these questionnaires.

Procedures

Clinicians

The health workers were emailed an information sheet about the study (Appendix 11) and a copy of the preliminary SACS instrument. There was also a series of questions included, which requested feedback on the wording, content and structure of the SACS items. More general views on monitoring and recording young people's substance use were also sought. All questions were open-ended, with respondents providing feedback via free text responses (Appendix 10). Participants in this stage of the consultation were required to send back the SACS instrument (either by email or post) with responses and suggested changes.

Clients

A qualitative approach was used to gather feedback from the clients, or young people in AOD treatment. A protocol was developed (refer to Appendix 15) which detailed the criteria for participation and outlined procedures for contacting and gaining consent from clients. Potential participants were identified by their clinician and then discussed with either myself, or a research assistant, to determine if they met the criteria to take part. They were then invited to take part in the study by their clinician. If initial interest was indicated, they were provided with a participant information sheet at least one week prior to the scheduled interview. Their parent(s)/guardian(s) were also supplied with written information about the study within this timeframe. In addition, the young people were briefed in detail about the research process, and given the opportunity to voice any concerns or have any questions answered.

If clients signalled that they wished to take part, the researcher attended an appointment scheduled by the participant's clinician. At the start of the interview a further verbal explanation of the study was provided, and the voluntary and confidential nature of the research was reiterated. Verbal and written consent was obtained prior to the research commencing.

The research process involved the clients completing the preliminary version of the SACS. The researcher was present during this time (along with the clinician) and observed and recorded the way in which the young person completed the instrument (e.g. if they asked for clarification or had difficulty completing particular questions). The length of time each participant took to complete the preliminary SACS was also recorded.

Following this, the young people took part in a semi-structured interview, which was facilitated by the research assistant. Topics covered included their first thoughts on the instrument, overall likes and dislikes, views on layout, and general acceptability of the instrument. Feedback was sought on the ease of understanding, clarity, and relevance of individual SACS difficulties items (Appendix 14). Interviews took around one hour (including the time it took to complete the instrument) and the researcher took notes during the interview (recordings were not made). This involved writing down the responses of participants, as well as general field notes on the way in which the instrument was completed.

Interviews with clients were held during clinical appointments and took place during November and December 2004. A Pacific researcher facilitated the interview with the Tuāpu clients, and a Māori researcher conducted interviews with participants from Te Ātea Marinō.

Non-AOD clients

Contact was made with the YAC co-ordinator who approached the YAC members to ascertain their level of interest in participating in a focus group to discuss the SACS instrument. Following this, a research assistant and I were invited to a YAC meeting (held in February, 2005) and a focus group was conducted. Food was provided at the meeting by the SACS team.

I started proceedings by providing the group with information about the research process, addressing any questions, and assuring participants of the confidential and voluntary nature of participation. The YAC members present then read the participant information sheet and completed the 'Preliminary2' SACS instrument. The research assistant observed and made field notes on the way in which the young people completed the instrument (e.g. if they asked for clarification or had difficulty completing particular questions). The length of time it took the last focus group participant to complete the instrument was also recorded.

Following this, I facilitated a group discussion based on a prepared list of questions (Appendix 16), while the research assistant took field notes and wrote down participants' responses. This explored young people's views of the participant information sheet, their first thoughts on the instrument, and feedback on individual SACS difficulties items.

Data analysis

Thematic analysis of the data from all three participant groups was undertaken. The researchers collated and categorised feedback for each item (including general comments) from the written responses and field notes. This data was then reviewed and discussed a number of times to identify key strengths and drawbacks.

5.3. Results

Clinicians

A total of 26 responses were received from clinicians working in the youth mental health or AOD sector. Some participants emailed their responses, and others sent in comments on hard copies of the instrument.

Section A feedback (recording frequency and patterns of substance use)

Feedback on Section A of the preliminary SACS instrument was generally positive. A number of comments were made regarding the ease of use of the instrument, in that it appeared quick, simple and straightforward to complete - e.g. *“Looks quick and easy to use”* and *“Like this – straightforward and quite easy to work out”*.

A couple of respondents commented on the frequency scales in Question 1. One felt that the *“30 day (last month) use would be useful for comparison with other data sources (particularly US)”* whilst another suggested adopting an alternative frequency scale to the preliminary one.

Comments received on the content of Section A of the ‘Preliminary’ SACS referred to the omission of tobacco in the list of substances, the potential expansion of the cannabis category to include different forms of this drug (e.g. bud, leaf or oil) and the inappropriate inclusion of heroin as an example of an opiate (considered less relevant than *“homebake”* in the New Zealand environment). One respondent felt that data on routes of administration, amounts used and attempts to cut down would also be useful information to collect.

There was some feedback on the terminology/ wording adopted in the instrument. One clinician felt that *‘dope’* would be more widely recognised than *‘skunk’* and another suggested removing the *‘jargon’* (e.g. *‘skunk, whiz, blow, smack’*). A couple of responses were made questioning the wording of the subscales in Question 3, in particular whether

there was enough differentiation between *'just enough to help you relax and feel good'* and *'just enough to get out of it (drunk, stoned, high etc.)*.

The other key area for comment related to Question 2 – *"In the last month, which one of the above substances did you use the most?"* Several observations were made about this question. Some felt that restricting this to one substance only was problematic and suggested allowing for two or three to be named instead – e.g. *"More than one substance usually used a lot – possibly need to name two"*; *"You need a box for those individuals who use more than one category the most"*; *"Maybe we can ask them to list their three main choices rather than just one"*. One clinician also suggested that this question *"implies substance used most is the most problematic, and this may not be true"*.

Section B feedback (SACS difficulties items)

When responding to this section of the instrument, clinicians made a number of general observations. A key issue raised was the length of the preliminary SACS, with several comments that it was overly long, and contained too many items: *"a little wordy and lengthy"*, *"just seems to be a lot and I'd wonder about having a briefer tool"*, *"too many questions"*. Other issues related to how sensitive it would be in identifying early stages of problem behaviours and its overall role (e.g. whether it will identify abuse or dependency, or both). One clinician commented that the instrument would provide *"plenty of lead-ins for future conversations, a good document to refer back to"*. Another raised concerns about the instrument's potential for educating young people about drugs, in terms of raising their awareness about a wider range of substances than they may previously have been aware of. Some feedback was also received on specific SACS difficulties items; e.g. it was felt that item 18 (*'I had emotional difficulties (such as unhappy mood, nervousness or anxiety, paranoid thinking or strange experiences) which might be linked to my use of alcohol or drugs'*) would be confusing given the potential confounding effects of symptoms of other mental illnesses. Clinicians were specifically asked to suggest other items that could be included in the instrument. Responses related to further inclusions on the negative impacts of drug use (e.g. *"debt due to drugs"*, *"suicidal thoughts/behaviours"*), inserting items on the *"good things about drug taking"*, and the background to a young person's substance use (e.g. *"to help emotional pain or escape from memories"*, *"parental use"*, *"history of abuse"*).

Additional comments from clinicians

Email survey respondents were offered the opportunity to comment further about the study and provide general observations on screening and outcome measurement in young people. Key issues identified included the importance of measuring the context, history, impact and frequency of use amongst young people, and recognition of the fact that young people may under or over report substance use. Suggestions were also made about potential additional items. These included impact on schooling, priority of spending on drugs, experience of criminal charges (or trouble with Police), and exposure to infectious diseases.

Clients

Seven young people participated in this stage of the consultation. Three of the participants were aged 16 years, two were aged 15 years, one was aged 13 years and one was aged 17 years. Four clients were from Altered High, two were from Te Ātea Marinō and one was from Tuḡu. We had intended to interview two clients from Tuḡu, however one client did not attend their scheduled appointment. Five participants were female and three were male. Two self-identified as Māori, three as New Zealand European, one as New Zealand European/Māori and one as Tongan.

Clients' views on the participant information sheet and the 'Preliminary1' SACS instrument were sought. The participant information sheet was generally well-received, and there were no problems identified with regard to its content or young peoples' comprehension of the information provided. Comments made by participants included: *"found the participant sheet fine, had no issues with it"*, *"covers all questions young people would ask"*, *"it's quite good, informative"*.

It was intended that client participants complete the 'Preliminary1' SACS instrument without assistance. However, two young people requested clarification on two individual questions. Clients took between three minutes and fifteen minutes to complete the 'Preliminary1' SACS instrument. The average time taken was approximately eight and a half minutes.

Following completion of the 'Preliminary1' SACS instrument, client participants were asked *"What are your first thoughts of the questionnaire?"* Three client participants indicated that completing the instrument led to some reflection of their alcohol and drug use: e.g. *"helps to see how far I've come"*, and *"Pretty straight up. Good to get questions. Need to be honest with it, tell the truth"*.

Section A feedback (recording frequency and patterns of substance use)

Feedback on Question 1 (frequency of substance use) indicated that some participants did not understand the scientific names of some substances. However, most reported that they were familiar with the 'street names' provided. One participant had not heard of some of the drugs listed. All young people commented favourably on the layout of this question: *e.g. "good ticking boxes – not too much writing", "simple – can just read it. Easy answers."*

Questions 2 and 3 were generally understood by the young people. One young person, however, had difficulty with matching the substances in Question 1 to the Question 2 responses.

Section B feedback (SACS difficulties items)

Feedback on each of the 28 items listed in Section B of the questionnaire was also sought. Overall, most participants felt that having fewer items would improve the instrument. One commented that in its current format, it appeared *"daunting"* whilst another stated that it made completing the instrument *"a bit confusing."*

With regard to specific items listed in Section B, young people were positive about the following items, commenting that they were easily and clearly understood, and acceptable in their current format:

- item 1: 'Other people have been concerned about my alcohol or drug use'
- item 2: 'I took alcohol or drugs when I was alone'
- item 5: 'I hung out or had strong cravings to use alcohol or drugs'
- item 13: 'I found it difficult to stop taking alcohol or drugs once I had started'
- item 14: 'I often wished that I could cut down on the amount of alcohol and drugs that I was taking'.

Beyond this, client participant responses to the other items were also generally positive with regard to their clarity, acceptability and ease of understanding. Feedback from one participant identified that some items caused confusion by using past and present tenses and also that several items could be linked together creating one item instead of two. Some items received more feedback than others. Those items that were noted as causing confusion by two or more participants were:

- item 3: 'I was in control of my alcohol or drug use'

- item 6: 'I was not at all concerned about my alcohol or drug use'
- item 23: 'I took so much alcohol or drugs that I blacked out or had memory loss'
- item 24: 'I took risks that could have led to serious injury when I used alcohol or drugs'.

Non-AOD clients

As described above the 'Preliminary1' SACS instrument was revised following feedback from clinicians and clients. An amended version ('Preliminary2') was presented to a group of non-AOD clients (young people not in AOD treatment).

Seven young people took part in this stage of the research, five female and two male (there were also 2 adult coordinators present but they did not participate in the discussion). Their ages were as follows; one 12 year old, two 15 year olds, two 17 year olds, one 18 year old and one 19 year old. Two participants identified themselves as Māori, two as European/Pakeha, one as Samoan and two as Tongan.

Non-AOD clients' views on the participant information sheet and the 'Preliminary2' SACS instrument were sought and mostly positive comments were received. The language and question format adopted were reported as "*good*". The graffiti art also was also received positively, although it was suggested that the information sheet could be improved by providing it in colour.

Participants took between four and eight minutes to complete the instrument. When asked '*what are your first thoughts of the questionnaire?*' respondents commented on the ease of completing the instrument (e.g. "*pretty simple – any age from 12 could complete*"), the small and cluttered layout (making it difficult to read) and the fact that it did not take too long to complete.

Section A feedback (recording frequency and patterns of substance use)

When completing the 'Preliminary2' SACS, two group members requested clarification on Question 1. One query related to the type of drugs to record and the other to what names to write in the 'other drug' section. The question recording quantity of substance usually taken was easily understood and completed.

Section B feedback (SACS difficulties items)

There was some initial confusion with regard to the list of items, and whether these corresponded to the substance selected as having “*caused you the most difficulties*” (as recorded in Section A). Items which received specific feedback included:

- item 3: *‘My alcohol or drug use has been under control’*. One participant found this confusing, and a discussion was held about the meaning of ‘control’ and how it could mean different things to different people
- item 6: *‘Most of my free time has been spent getting hold of, taking or recovering from alcohol or drugs’*. Several comments were made about the word ‘recovering’, including “don’t really recover after taking alcohol”.
- item 10: *‘My alcohol or drug use has led to arguments with my parents (or caregivers)’*. Participants suggested that friends could be included as well.
- item 13: *‘I broke the law (stealing, vandalism, assaults etc.) when taking alcohol or drugs’*. Given that a response may indicate illegal behaviour, concern was raised about the confidentiality of the information and who would have access to it.
- item 15: *‘I’ve had unsafe sex or an unwanted sexual experience when taking alcohol or drugs’*. This item generated considerable discussion amongst the focus group participants. Some felt that it worked well, others queried the position of this item as the final statement, and one participant felt that this item may not be answered truthfully.

5.4 Changes to the SACS based on feedback from the consultation stage

A community version of the SACS

One of the key challenges provided by the feedback from this stage was from the clinician participant group. Clinicians experienced in working with young people with substance use expressed concern about the first part of the instrument inadvertently educating young people about a range of substances they may not otherwise have been aware of. Although there is no evidence to suggest that this concern is real, best practice in alcohol and drug treatment does encourage caution when providing information about substances, particularly to younger children as some studies have indicated that it can increase interest

in substances (Loxley, 2004). In light of this it was recognised that this perception amongst AOD and other health clinicians could act as a potential barrier and prevent use of the SACS in a range of settings.

We decided that the development of a '*community version*' of the SACS could offer a reasonable way to mitigate against this risk. It was straightforward to create this, simply by removing the names of many of the substances listed in Part A. This question records the frequency of substance use and the community version and rather than a list of ten substances, listed alcohol and cannabis only. Those young people using the community version who might have used other drugs, rather than selecting them from a pre-determined list, were required to write in the substance name in specific allocated spaces.

A tobacco question

A second key change that resulted from the feedback and consultation stage was the creation of a question about use of tobacco. Originally a question about tobacco was not included. Tobacco is of interest to those providing AOD treatment because it co-occurs commonly in young people with substance use problems and young smokers have poorer physical health suffering headaches, fatigue, respiratory symptoms and infections (Woodhouse, 2004). Young people who start smoking in adolescence are less likely to be able to stop as an adult and are likely to smoke more overall (Chen & Millar, 1998). Furthermore early smoking predicts later problems with tobacco dependence, alcohol and illicit drugs (Loxley, 2004).

However clinical services are seldom set up to manage tobacco use alone as its treatment is best tackled via public health measures rather than individual counselling and its use is less likely to cause psychosocial problems. In addition, the harm from tobacco is largely quantifiable from the amount and pattern of use. Including tobacco together with more psychoactive substances risked complicating responses, potentially limiting the SACS' usefulness as a tool for screening those needing AOD treatment. In light of this we decided to place the question at the end of the revised instrument. This meant the instrument still provided information on tobacco use in young people, without confounding answers about other substances.

A more effective frequency scale

This refers to the scale indicating the number of times young people used substances in the last month. In order to better assess general patterns of use (rather than total number of occasions used in a month) this was amended to a four point scale that required the responses ‘never’, ‘once a week or less’, ‘more than once a week’ and ‘most days or more’.

Revised measures of patterns of substance use

Feedback from clinicians identified that the original question ‘In the last month, which **one** of the above substances did you use the most’ was problematic because the substance being used the most may not necessarily cause the most concern. Thus the question was reworded to ‘Which one substance from the list above caused you the most difficulties?’ In addition, the scale identifying general patterns of use was reworded and reduced to a three-point (rather than four-point) scale.

Reduction of SACS difficulties items

Over the course of this stage of the SACS project the ‘Preliminary1’ SACS was reduced from 28 to 15 items as per the intention of the team to develop a brief instrument. Decisions regarding which items were culled were influenced by the feedback from clinicians and clients. A small number of items were also combined into one statement. The reasons for items being removed or combined included;

- they contained issues that had less evidence to support their importance in youth (e.g. physical health problems because of drug use),
- they were confusing or difficult to understand,
- they risked producing false positive answers,
- they were ineffective at identifying problem use.

This shorter version of the instrument was renamed the ‘Preliminary2’ SACS and was shown to non-AOD clients. Following feedback from this group no other items were removed but several were edited. Further detailed discussion summarising the considerations that influenced the inclusion or exclusion of specific items is further described in the following chapter of this thesis, which describes the piloting of the SACS.

Amendments to the remaining 15 SACS difficulties items

For some items, this included grammatical changes (e.g. to a different tense). Others were edited to eliminate confusion over intended meaning, or to make the item clearer and more succinct (e.g. Item 23: *'I took so much alcohol or drugs that I blacked out or had memory loss'* was changed to *'Sometimes I took so much alcohol or drugs that I couldn't remember what I had done'*.)

5.5. Conclusions

Consultation with clinicians about the SACS instrument and project in general was positive and resulted in some changes to the structure and format of the instrument. Following this, consultation with young people revealed that the SACS was likely to be completed by most participants within 10 minutes. Few of the client participants had difficulty understanding the instructions or following the format of the questions. Most completed it with minimal assistance.

Participants felt that overall the number of questions was reasonable and the length of the instrument appropriate. The face validity of the instrument items appeared on the whole sound however useful information was obtained from this stage of the research leading to a number of changes to the instrument as detailed above. In addition, this stage led to a number of changes to the structure of the instrument.

6. The SACS - piloting the instrument

6.1. Introduction

The feedback about the SACS gained via the research process described in the preceding chapter led to a number of changes to its structure and content but before psychometric testing could go ahead it was important to pilot the newly designed instrument. There was still some degree of fine-tuning required before we could be happy that we had a finished instrument that was ready for psychometric testing. A successful pilot would allow us to embark on the larger stages of the research with confidence.

The aim of this part of the study was to pilot a version of the SACS, called the 'PenultimateSACS' and obtain a preliminary overview of its psychometric properties and acceptability. Specific objectives included trialling the 'PenultimateSACS' amongst a community population (secondary school pupils) and a clinical population (young people in AOD treatment) and using this opportunity to dummy run a number of research protocols in the clinical and community settings that would be required on a larger scale in the later validation and psychometric testing stage of the SACS instrument.

We also used this opportunity to assess a number of fundamental psychometric properties of the instrument by comparing it with another screening instrument, the CRAFFT (Knight, Sherritt, Shrier et al., 2002). Crucially this pilot stage was also an opportunity to measure the sensitivity and discrimination values of the individual items in the 'PenultimateSACS' via discriminant function analysis. This statistical method is used to determine which variables discriminate between two groups; in our case which questionnaire items best discriminate between the clinical and community populations. The results from this pilot stage would then be used to assist with selecting the final set of items for the SACS instrument. Finally this study was an opportunity to gain further feedback from young people about their experience of completing the SACS instrument.

6.2. Methods

Population

The SACS pilot was undertaken in the Auckland region. A revised version of the 'Preliminary2' SACS (named the 'PenultimateSACS') was developed and tested amongst two key groups, a community sample of young people attending a local secondary school and a clinical sample of young people in AOD treatment. All stages of this study were approved and overseen by the Ministry of Health Northern X Regional Ethics Committee, New Zealand (Appendix 9). Information about the study was provided to potential participants at least seven days prior to the research and written informed consent obtained on the day. Where appropriate, parents were informed and passive parental consent sought. This was not undertaken if informing parents might put at risk the engagement or safety of adolescents (who were attending a service without their parents' knowledge). See appendices 17, 24 – 27 for copies of the relevant documents).

Community sample

The community sample was drawn from a secondary school in Auckland. A number of steps were undertaken during the process of selecting the participating school. Firstly, staff at the Ministry of Education provided data that detailed the decile, ethnicity and gender composition of all Auckland secondary schools. All schools in New Zealand are given a decile rating, depending on the socio-economic status of the area they serve. Schools in the lowest deciles (1-3) draw their students from communities with the highest degree of socio-economic disadvantage, while those in the highest deciles (8-10) draw the least from these communities.

These data were used to select 20 schools, which were chosen to provide a mix in terms of geographical location, decile, ethnicity and sex. No private schools or single sex schools were included in this initial selection. Following this, the selected secondary schools were sent a letter and some initial information about the research project. The schools were informed that they would be contacted at a later date, but were welcome to approach the research team in the interim if they required further information.

Five schools (from a range of deciles) approached the research team in response to the mailout and signalled their interest in participating in the study. The principal from an additional school also contacted us after reading about the study in a youth AOD service newsletter. Meetings were arranged with five of these schools and the researchers met with

school guidance staff and discussed the research in further detail. Whilst it was expected that pupils from only one school would be required to participate in the pilot phase, a decision was made to meet with all the secondary schools who responded (where possible). This was in anticipation of the further community sample that would be required for the next stage of the research and the need, therefore, to establish links with a wider range of schools. Following these meetings a decision was made to obtain the community sample from a decile three school in South East Auckland. The key reasons for selecting the school included the large student numbers at the school, the varied ethnicities of the students, and the fairly equal numbers of male and female students on the school roll.

Approximately 45 students ranging in age from 13 to 18 years were sought for this phase of the study. Two classes that contained fairly equal gender representation, a mix of ethnicities and students of varying academic abilities were identified by the Deputy Principal and invited to take part in the study. Other participation criteria included: the young person was able to complete the questionnaire without the assistance of their teacher (or other adult in attendance) or researcher, the young person was not displaying active and severe symptoms of mental illness such as that might interfere with their ability to complete the questionnaire and the participant was not intoxicated.

Clinical sample

The clinical sample was drawn from the three CADS AOD services that participated in the consultation phase of the study, Altered High, Te Ātea Marinō and Tupu. The research team approached the services, and a request was made for their support in recruiting a small number of youth clients to participate in the study. Following this, both individual and group meetings were held with the services, which provided an opportunity for the research team to explain the processes in greater detail. I kept clinicians at Altered High informed of the progress of the study, as I was also working at the service.

All participants in the clinical sample were required to be aged between 13 and 18 years and a client of one of the three services identified above. In addition, a mix of gender and ethnicity were sought. Other criteria for inclusion were: the young person was able to complete the questionnaire without the assistance of their clinician and/or an interpreter, was not displaying active and severe symptoms of mental illness such as that might interfere with their ability to complete the questionnaire, and was not intoxicated.

Instruments

Research packs were provided to the participating school and services. These contained the following:

1. *A participant information sheet*: a revised edition of the participant information sheet was utilised in this stage of the research. This contained information on the purpose of the research, and what young peoples' participation in the study would involve. Changes made after the consultation phase included the insertion of pictures, inclusion of researcher contact details and amendments to some of the text. These changes were approved by the Ethics Committee prior to the commencement of this phase of the research.
2. *A participant consent form*: this contained information on the voluntary and confidential nature of the study and required participants' signed consent.
3. *Demographic questions*: this collected information on the age, gender, ethnicity and living situation of participants (see Appendix 28).
4. *The CRAFFT questionnaire*: is a validated and commonly used brief screening instrument which has been compared with established instruments and reported as having good sensitivity to differentiate young people with AOD disorder (Knight et al., 2003). It was included in the pilot stage to provide a preliminary assessment of the congruent validity of the SACS instrument (Appendix 30).
5. *The 'PenultimateSACS'*: this version of the SACS had been developed from earlier stages of the project (Appendix 20, 21). The 'PenultimateSACS' contained three sections that recorded the following: frequency of substance use within the last month, patterns of substance use and substance use related symptoms, behaviours and consequences of use in the last month (SACS items). Fifteen SACS difficulties items were included in this version of the SACS (see appendices 20 & 21 for the 'PenultimateSACS' instruments used for the community and clinical populations in the pilot stage).
6. *A feedback form*: this included three visual analogue scales (assessing how 'difficult', 'helpful' and 'upsetting' it was for participants to complete the instrument) with responses scored between 0 – 6 depending on where participants marked the line on the scale provided. There was also space for free text responses with regard to

what participants liked and disliked about the instrument and an area provided for young people to add any other comments (Appendix 29).

7. *Brain teasers/word games*: these were included for those community participants who finished early or who did not consent to participate in the research (Appendix 33).

Procedures

I developed data collection protocols to guide the researchers conduct and collection of data (see Appendices 34 and 35). The community sample protocol outlined the aims of the pilot, participant criteria, processes for providing pre-study information (e.g. for parents and guardians), information and consent procedures, and data collection and storage procedures. The clinical sample protocol included a clinician information flow chart and a clinician information sheet that detailed the individual steps in the research process (e.g. procedures for gaining informed consent).

Community sample

Detailed discussions with the Deputy Principal about the research process and expected conduct of the researchers were held and a plan for data collection was negotiated between the research team and the participating school.

Ten days before the pilot study commenced, the SACS research team delivered the participant information sheets to the school for distribution to students in the classes that had been selected to participate in the research. These were circulated to students at least one week prior to the implementation of the study. Parent/guardian addresses were supplied to the researchers by the school. Parents/guardians of the selected students were advised about the study via a letter and an information sheet (Appendices 24 - 27), which were mailed out on the same day as the students were provided with participant information sheets.

On the allocated research day desks in the classroom were separated and placed into an exam layout to ensure maximum privacy for participating students. At the start of the data collection process the SACS researchers were introduced to students by their teachers. Following pre-determined protocols, the researchers explained where they were from, the purpose of the study and what the young people's participation in the research would

involve. Students were asked if they had any questions and following this each participant received a research pack. The confidential and voluntary nature of the research was reiterated and several opportunities were provided for the students to ask questions.

The process of consent was explained and those students who did not consent were instructed to complete the consent form stating this, and to fill in the demographic section of the instrument only. They were also directed to a set of 'brain teasers' and word games contained in the research pack that they could complete if they chose to. Before commencing participants were asked if they had further questions and then they were asked to open their research packs and complete the enclosed forms. When the last student completed the instrument the research packs were collected. Participants were asked if they had further questions or comments, and information about support options (e.g. via the school guidance counsellor) was reiterated.

Clinical sample

To assist with data collection for this stage of the pilot, clinicians from the three services were provided with a clinician's research pack. This contained the clinician information flow chart and information sheet, participant and parent information sheets, and the participant research pack.

Potential client participants were invited to participate in the study by their clinician. If initial interest was indicated, clients were provided with a participant information sheet (Appendix 24). In addition passive parental consent was sought, with parents encouraged to inform their child's clinician if they did not want them to take part. This involved parents being posted a parent information sheet and an introductory letter from the SACS investigators (see Appendices 25 and 27) at least one week before the scheduled interview. This step was not undertaken if it was considered that informing parents about the study may put the young person at risk of harm. In some cases, parents were not involved or aware of their young person's treatment and seeking parental consent would have been a breach of clinician/client confidentiality potentially leading to the youth disengaging from the service.

Clients completed the instrument within their usual counselling session, with their clinician present. Before this commenced a further verbal explanation of the study was provided, and the voluntary and confidential nature of the study was reiterated. Verbal and written consent was obtained prior to the instrument being completed. Following this, client participants were asked to complete the forms contained in the research packs. These

documents were retained by the clinician in a secure cabinet and subsequently collected by the researchers.

Data analysis

Data from completed questionnaires were numerically coded and entered into an SPSS database. Ethnicity coding used the Statistics New Zealand priority recording system (Statistics New Zealand, 2007).

The Pearson product moment correlation (r) between the SACS score and the CRAFFT score was ascertained. Internal consistency of the items was examined. Discriminant function analysis was performed to elucidate the discrimination values of each of the items. These results were combined with findings from the literature review to inform the selection of the 10 items for inclusion in the final version of the SACS.

6.3. Results

Demographics

The sample for the pilot phase comprised 61 young people, with the community cohort making up 79% (48/61) and the clinical sample comprising 21% (13/61) overall. Table 12 provides an overview of the demographic characteristics of the community, clinical, and total samples.

All participants were aged between 13 and 18 years, with the mean age across the total sample 15.3 years. Clinical participants were, on average, slightly older (mean age 16.5 years) than their school-based counterparts (mean age 14.9 years). Just over two fifths (43%) of the overall sample were European (26/61), with one quarter (25%, 15/61) identifying as Māori, 15% (9/61) as Pacific, and 10% (6/61) as Asian.

Table 12: Demographic characteristics of the community, clinical and total samples

		Clinical (<i>n</i> = 13)	Community (<i>n</i> = 48)	Total (<i>n</i> = 61)
		<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)
Age (years)	13	1 (8)	0 (0)	1 (2)
	14	0 (0)	27 (56)	27 (44)
	15	2 (15)	4 (8)	6 (10)
	16	2 (15)	10 (21)	12 (20)
	17	5 (38)	7 (15)	12 (20)
	18	3 (23)	0 (0)	3 (5)
Mean age (sd)		16.5 (1.5)	14.9 (1.2)	15.3 (1.4)
Gender	Male	10 (77)	18 (38)	28 (46)
	Female	3 (23)	30 (62)	33 (54)
Ethnicity	European	11 (85)	15 (31)	26 (4)
	Māori	2 (15)	13 (27)	15 (25)
	Pacific	0 (0)	9 (19)	9 (15)
	Asian	0 (0)	6 (13)	6 (10)
	Other	0 (0)	5 (10)	5 (8)
Living situation	Parents	11 (85)	47 (98)	58 (95)
	Guardian	2 (15)	1 (2)	3 (5)

n = number; *sd* = standard deviation

Psychometric properties

The coefficient alpha of the SACS items was calculated at 0.9, indicating good internal reliability. Pearson product moment correlation (*r*) between the total scores of the ‘PenultimateSACS’ and the CRAFFT was 0.81 suggesting that our instrument had validity with respect to the more established instrument.

Using the SDQ scoring system (not true = 0, somewhat true = 1 and certainly true = 2), discriminant function analysis showed that the individual SACS difficulties items correlated highly with the total score, giving predictions for the items with accuracies ranging from 59% to 80%. This confirmed that each item performed consistently relative to the other items, indicating that the proposed scoring system for the SACS item responses (a 3-item likert scale [not true, somewhat true, certainly true] similar to the SDQ with weightings for each response scored 0, 1, 2 respectively) was appropriate for the SACS and would yield consistent results.

Table 13 details the percentage of items correctly classified in the SACS instrument, alongside their ranking. Whether or not they were included or excluded from the final instrument is also indicated and the process involved is detailed more fully to follow.

Table 13: Discriminant values of the individual SACS items

Item no.	Item	Items correctly classified (%)	Ranking (1-14)	Included (yes/no)
1	Other people have been concerned about my alcohol or drug use.	79.9	2	No
2	I took alcohol or drugs when I was alone.	70.4	11	Yes
3	I've 'hung out' or had strong cravings to use alcohol or drugs.	70.4	11	No
4	I've thought I might be hooked or addicted to alcohol or drugs.	75.5	6	Yes
5	Most of my free time has been spent getting hold of, taking, or recovering from alcohol or drugs.	75.5	6	Yes
6	I've wanted to cut down on the amount of alcohol and drugs that I am using.	72.2	9	Yes
7	My alcohol and drug use has stopped me getting important things done.	77.8	3	Yes
8	I've had emotional difficulties (such as sadness, anxiety, paranoid thinking or strange experiences) because of my alcohol or drug use.	75.9	5	No
9	My alcohol or drug use has led to arguments with my parents (or caregivers).	81.5	1	Yes
10	I've had unsafe sex or an unwanted sexual experience when taking alcohol or drugs.	72.2	9	Yes
11	My performance or attendance at school (or at work) has been affected by my alcohol or drug use.	77.8	3	Yes
12	At times I took so much alcohol or drugs, I couldn't remember what I had done.	64.8	13	No
13	I did things that could have got me into serious trouble (stealing, vandalism, violence etc) when using alcohol or drugs.	74.1	8	Yes
14	I have driven a car while under the influence of alcohol or drugs (or have been driven by someone who was under the influence of alcohol or drugs).	59.3	14	Yes
15	My alcohol or drug use has been under control.	Not included		No

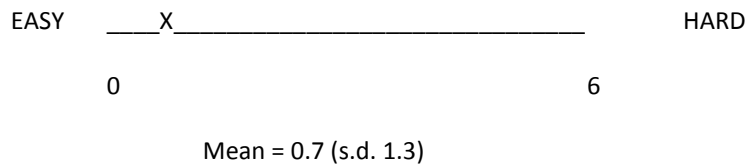
Acceptability

Researchers and clinicians provided informal feedback about any difficulties observed whilst young people completed the SACS. Within the classroom environment it was reported that students undertook the SACS without seeking assistance or clarification from the researchers. This was not the experience of the clinicians, who recalled that some young people sought clarification on the wording or intention of questions. Overall there were no comments that either population had significant difficulties understanding instructions or completing the instrument.

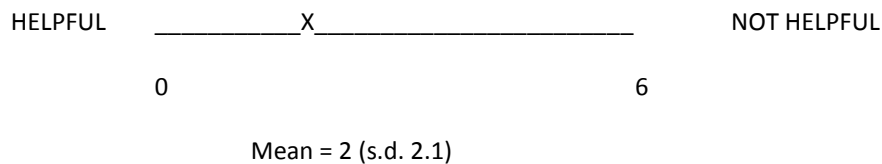
Within the school sample, almost all young people completed the SACS within 10 minutes (the last student took approximately 15 minutes). For the clinical sample the time taken to complete the instrument was also around 10 minutes.

A total of 54 responses to the feedback form were received (with seven either not answering the question or completing it incorrectly). The results are detailed below.

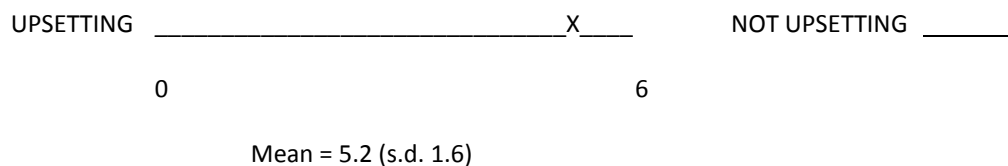
a) I found the SACS questionnaire to be



b) I found the SACS questionnaire to be



c) I found that the SACS questionnaire was



6.4. Discussion

Pilot testing was performed in a mixed community and clinical sample of 61 young people with a 15-item version of the SACS called the 'PenultimateSACS'. As in previous stages of the research, participants reported finding the questionnaire easy to complete, helpful and not distressing, further establishing preliminary credentials with regard to its general acceptability.

A basic test of reliability was conducted revealing that the questionnaire items had good internal consistency as measured by coefficient alpha. Cronbach's coefficient alpha is calculated by computing the variance in respondents' scores for each item score and for the total sum score. If the items were perfectly reliable then coefficient alpha will be equal to one. The converse is true in a completely unreliable scale (yielding a score of zero). The internal consistency of our items was 0.9, which is an indication of good reliability.

As a preliminary test of the instrument's validity we measured how well our questionnaire items correlated with an established youth AOD screening instrument, the CRAFFT. The Pearson correlation coefficient (r) is a measure of the relation between two or more variables, in our case the SACS and the CRAFFT scales. The value of +1.00 represents a perfect positive correlation i.e. as one variable's values tend to increase, the other variable's values will also increase. The correlation coefficient between our two instrument scores was ($r = 0.81$). This was an encouraging indication that our questionnaire was measuring what we intended it to.

The final task of the Pilot stage involved the selection of the best 10 items for the final version of the SACS. Choices about which items stayed and which were removed were made with reference to the literature and with the aim of creating a balance of items, reflecting both substance related symptoms, and harmful consequences of substance use. Specific details regarding these decisions are discussed below.

Final selection of items for the SACS Difficulties Score

It became apparent early on in the data entry process that the only reverse scored item in the collection (item 15: *'My alcohol and drug use has been under control'*) was confusing to participants, as inconsistent answers were detected. This was most obvious amongst the community participants who, despite otherwise reporting no substance use whatsoever and no other problems, reported their use as *'out of control'*. More specifically, of the entire sample 27% gave a 'definitely true' response that their use was *'out of control'*, whereas the mean positive response for the other 14 items was about 10%. Given the apparent unreliability of this item, it was excluded from further testing and a decision was made for it to be omitted from the final instrument.

Following the exclusion of item 15 (*'My alcohol and drug use has been under control'*) there was a requirement to reduce the number of remaining items (from 14 to 10). We performed discriminant function analysis to assist with this decision-making process. Discriminant function analysis is a statistical procedure used to determine which variables (in our case SACS items) discriminate best between groups. The statistical analysis involves calculating whether groups differ with regard to the mean of a variable, and then that variable is used to predict group membership. The process is repeated in a step-wise fashion, building a model utilizing all the variables.

The data from our sample demonstrated that most of the items had excellent discriminant values thus decisions about the final combination of 10 items were influenced strongly by the literature review, findings from the feedback process and the need for the instrument to incorporate a breadth of behaviours, symptoms and consequences. We also made a decision to select items in a way such that half of them assessed symptoms and behaviours, and the other half assessed consequences or harm related to use.

Five items were chosen to remain in the instrument, selected on account of their good discriminant values and/or their importance in the assessment of youth substance use problems.

- *'I took alcohol or drugs when I was alone'.*
- *'I've had unsafe sex or an unwanted sexual experience when taking alcohol or drugs'.*
- *'My performance or attendance at school (or at work) has been affected by my alcohol or drug use'.*
- *'I did things that could have got me into serious trouble (stealing, vandalism, violence etc) when using alcohol or drugs'.*
- *'I have driven a car while under the influence of alcohol or drugs (or have been driven by someone who was under the influence of alcohol or drugs)'.*

From the remaining nine items, four were then excluded (listed below with reasoning about the decision).

- Item 12 (*'At times I took so much alcohol or drugs, I couldn't remember what I had done'*) was eliminated because of a combination of its relatively poor discrimination and the fact that the consultation process had revealed that the statement was often misunderstood.
- Although discriminating reasonably well, item 8 (*'I've had emotional difficulties (such as sadness, anxiety, paranoid thinking or strange experiences) because of my alcohol or drug use'*) was excluded for the following reasons: the item was at risk of being confounded by pre-existing emotional difficulties, it is also assessed via an SDQ sub-score, and there had been some problems with its interpretation during the consultation phase.
- Item three (*'I've 'hung out' or had strong cravings to use alcohol or drugs'*) was excluded as it was felt to be similar to item four, although discriminated less well.

- Item one (*'Other people have been concerned about my alcohol or drug use'*) was also excluded. Although this had good discriminant properties, its subjective nature and the fact it relied on an assessment of someone else's feelings meant it was less favoured. As well it appeared to be assessing a similar construct as item 9.

The final structure of the SACS

The question evaluating the amount used on each *occasion* of use (Question B in the Penultimate SACS) was included from the beginning of the design process and modified a number of times. There were two parts to this question: *'Which one substance from the list above caused you the most difficulties?'* and *'When you used this substance did you **usually** take...?'* with young people required to select from the following options: *'A small/moderate amount', 'A large amount', or 'a very large amount'*. It was intended to provide a more robust assessment of the level of substance use. (e.g. a person using a small amount of alcohol every day is arguably at less risk than a person who uses very large amounts twice a week). However, an analysis of young people's responses from this stage of the research identified that the combination of questions was poorly understood and frequently answered unreliably. This same problem had occurred in the consultation stage of the research and the modifications that had been made to try and improve the questions reliability had not been successful. In light of the continued problems with this question a decision to omit it was made and it was not included in the final SACS instrument.

6.5. Conclusions

In addition to establishing that the preliminary SACS instrument had good acceptability, internal consistency and validity, the pilot testing stage had enabled a number of potentially complex procedural issues to be trialled in vivo. This was particularly valuable in terms of learning to deal with large school administrations and systems (somewhat alien to those involved in the research who were used to health systems) and was also useful in terms of familiarising clinicians in all three involved AOD services with what would be required of them during the research process.

This successful pilot allowed the research team to proceed to the next stage of the project, psychometric testing in a larger community and clinical population, with confidence that the research methodology and the SACS instrument was basically sound.

7. Psychometric testing of the SACS instrument

7.1. Introduction

Psychometrics is a field of study concerned with psychological measurement. Designing and piloting a psychological instrument is only a preliminary step in its creation; verifying what exactly the instrument measures and if it does so accurately is the key part of establishing its credibility. With a successful pilot completed we were able to plan for a robust and comprehensive study to establish the psychometric properties of the SACS.

Many youth AOD instruments currently available have limited or patchy descriptions of their psychometric properties and, where more complete data are available, it is difficult to access. When researching the AOD instruments detailed in Chapter 4, information about an instrument's internal reliability was frequently provided as this is relatively simple to calculate based on a straightforward series of item scores in a population. Likewise, the mean and standard deviation of an instrument's scores in certain populations is frequently published. However this kind of data, by itself, is an incomplete representation of an instrument's psychometric properties.

Psychometric properties of instruments are often presented in this limited way because a comprehensive examination of the instruments properties has not been undertaken in the first instance. Rather, opportunities to further establish psychometric properties of the instrument are taken sequentially as the instrument is used to answer other research questions. Accessing psychometric data that have been accumulated in this way is seldom straightforward. It often requires retrieval from journal articles (often more than one) or alternatively is only available via purchase of the instrument and its materials.

In this study we aimed to perform a comprehensive examination of the SACS's psychometric properties so that a complete account would be available at the time the SACS was to be made available for wider use. This would be important in building confidence in the instrument from the outset and overcoming some of the drawbacks I had experienced when trying to access information about other, more established instruments.

We aimed to test the SACS in a mixed community (secondary school pupils) and clinical (young people in AOD treatment) sample of young people. To ascertain information about the SACS' reliability we aimed to examine the internal, split-half and test-retest reliability of the SACS. With regard to establishing the validity of the SACS we undertook a number of

approaches. We measured the congruent validity of the SACS by exploring its correlation with comparative AOD screening instruments (the CRAFFT and POSIT) and the SDQ, and establishing its concurrent validity via testing the sensitivity and specificity of the SACS. In addition we examined whether or not the SACS could be used to measure change over time. Lastly the psychometric testing stage was an opportunity to obtain extensive further feedback from young people on their experiences of completing the SACS instrument and its general acceptability.

7.2. Methods

Population

The validation and testing of the SACS was undertaken in the Auckland region. Community and clinical versions of the SACS, as developed in the previous stages, were tested amongst two key groups; a community sample of young people attending three secondary schools and a clinical sample of young people in AOD treatment. The study was approved by the Ministry of Health Northern X Regional Ethics Committee, reference AKX/04/08/21 (Appendix 9). Information about the study was provided to potential participants at least seven days prior to the research and written informed consent obtained on the day. Where appropriate, parents were informed and passive parental consent sought. This was not undertaken if informing parents might put at risk the engagement or safety of adolescents (who were attending a service without their parents' knowledge).

Community sample

We sought to recruit 400-600 community sample participants. All were required to be aged between 13 and 18 years and, as with the pilot study, a mix of gender and ethnicity was sought. Two classes of differing academic ability from each of the five-year groups in the three schools were selected in consultation with guidance and other involved staff. All participants were required to be able to complete the questionnaire without the assistance of their teacher (or other adult in attendance) or researcher, not be displaying active and severe symptoms of mental illness, and to not be intoxicated.

The recruitment of participants for psychometric testing was similar to that undertaken during the pilot study. Meetings were held with the schools that responded earlier to discuss the research and request their participation in the testing phase. Initially two schools with

contrasting socioeconomic and ethnicity profiles were selected. One of these was the school that took part in the SACS pilot however none of the students who had participated in the pilot study were permitted to take part in this stage. A third school became involved part way through the process after expressly requesting to be involved. A decision to include this school was made when it became clear that one of the original two selected schools was unlikely to provide enough participants to meet the study requirements. Whereas the first two schools came from lower and average income areas, the final school was from a high socio-economic area and thus enhanced the diversity of the total community sample.

Clinical sample

The three services that participated in the early stages of the study (Te Ātea Marinō, Tuḅu and Altered High) also took part in the psychometric testing. The intention was to recruit 100 young people from the three services, with 30 participants each from Tuḅu and Te Ātea Marinō and 40 from Altered High. However recruitment for participants from Tuḅu was a lengthier process than first anticipated and it was later decided to reduce this number to 10. All participants were to be aged between 13 and 18 years, and a mix of gender and ethnicity was sought. In addition, they were required to be able to complete the questionnaire without the assistance of their clinician and/or an interpreter, not be displaying active and severe symptoms of mental illness that might interfere with their ability to complete the questionnaire, and not be intoxicated.

Instruments

The final Substances and Choices Scale (including both a community and a clinical version) to be tested consisted of three sections. The first recorded frequency of occasions of use of a range of substances over the last month. Specified time frames include '*never*', '*once a week or less*', '*more than once a week*', and '*most days or more*'. The second section assessed alcohol and drug taking behaviour, symptoms and impacts/ consequences over the last month and consisted of 10 statements presented in the same format as the SDQ, with young people required to select a response from a three-item Likert scale ('*not true*', '*somewhat true*' or '*certainly true*'). Scores from these statements are added together to create the SACS Difficulties Score. The third section recorded *frequency of tobacco use* over the last month similar to the first section.

Please see Appendices 22 and 23 for copies of the SACS instruments used in this final stage of the research.

As per the pilot phase the SACS was compared with the CRAFFT screening instrument (Appendix 30) to test congruent validity but in addition the AOD section of the Problem Oriented Screening Instrument for Teenagers (POSIT) questionnaire (Latimer et al., 1997) was included (see Appendix 31). The POSIT is a more comprehensive instrument than the CRAFFT, comprises 17 items and has better psychometric properties (Knight et al., 2003). Clinical participants completed both the CRAFFT and the POSIT.

Although we wanted to test the SACS against both instruments in the community sample, there were practical (and ethical) concerns about getting young people (who were not presenting for AOD treatment) to fill out numerous questions on the same topic. Our large community sample meant that the study had ample statistical power to achieve its aims and because of this we made the decision to split the community sample, getting approximately half the participants to complete the CRAFFT and the other half to complete the POSIT. For each classroom of participants the researchers came with 'research packs' containing either the POSIT or the CRAFFT in equal quantities and distributed them randomly amongst the young people present.

The SDQ (Goodman et al., 2000) was also included in the research packs (Appendix 32). The SACS was designed similarly to the SDQ with the intention that the two instruments would be used in tandem, thus we were keen to include the SDQ in the psychometric testing stage. In addition, inclusion of the SDQ would enable further scores against which to measure congruent validity.

To summarise, the research packs distributed to participants included a participant information sheet, a participant consent form, demographic questions, the SACS instrument (community or clinical version, depending on the population), the CRAFFT and/ or POSIT questionnaire, the SDQ and a feedback form. Brain teasers/word games were also included in the community sample's research pack. Please refer to appendices 24 – 33 which include representative copies of these research materials.

Procedures

A clinician information sheet (Appendix 34) outlined the clinical research processes, including how to identify suitable clients, the procedure for non-consenting participants and

how to inform parents and guardians about the study. A protocol document for the community part of the study detailed the data collection process, expected conduct of the researchers and, where applicable, the requirements of the schools (Appendix 35).

Community data collection

At least one week prior to the study implementation, we delivered the participant information sheets (Appendix 24) to the schools for distribution to students in the selected classes. At the same time, parents/guardians of the students were mailed an introductory letter and a research information sheet (Appendices 25 & 27). In order to safeguard the privacy of family addresses, two of the schools requested that the letters be sent from the school. For these schools we provided letters at least 10 days before the planned study date. The other school provided this information to the research team, which distributed the letters directly to parents/guardians.

On the day of data collection the desks in the classrooms were separated and arranged in an exam layout to ensure maximum privacy for participating students. As per the study protocol the researchers explained where they were from, the purpose of the study and what students' participation in the project involved. Then each student received a research pack that included another copy of the participant information sheet, which the researcher read through with the participants in detail. The confidential and voluntary nature of the research was reiterated and several opportunities were provided for the students to ask questions.

Following this, the process of consent was explained, and participating students were asked to complete the consent form prior to undertaking the questionnaires enclosed in the research pack. Those students who did not consent were asked to fill in the demographic information only and were given the option of either complete the 'brain teasers' provided in the research packs, or alternative schoolwork assigned by teaching staff. The researchers highlighted the support available for students to access within the schools and the contact details for external support services, if required.

A proportion of the students were requested to repeat the SACS at a later date to assist with establishing the instrument's test-retest reliability. Half the participants from one school completed the re-test SACS one week after the first test, with the other half completing it three weeks after the first test. Students from the other two schools completed the SACS on one occasion only.

For those involved in the re-test process, an identification system was implemented so that each participant's first test could be compared against their second test whilst, at the same time, maintaining participant confidentiality. A unique identifying number was written on the participant's first and second (future) research pack, but the second also had a removable label with the student's name. Once the second instrument had been distributed to the named students, participants were asked to remove the identifying label that contained their name. Thus, completed questionnaires were distributed efficiently and submitted anonymously. The paperwork containing the student names and identifiers was held by the researchers and not distributed to any persons outside of the project. Following the completion of the second stage of the process, the list of student names and their identifiers were permanently destroyed.

Clinical data collection

As with the pilot phase, potential client participants were invited to participate in the study by their clinician. If initial interest was indicated, participants were provided with a participant information sheet (Appendix 24) and the parent information sheet (see Appendix 25) was forwarded to their parents/guardians with an introductory letter (Appendix 26) at least one week prior to the scheduled appointment. In some cases participants requested that their parents not be informed. In these instances it was noted in the young person's file and their participation in this study was kept confidential. This did not affect their ability to participate in the SACS project.

Clients completed the SACS, CRAFFT, POSIT and other research materials within a usual counselling session at their treatment service. Clinicians provided a further verbal explanation of the study was provided, and the voluntary and confidential nature of the study was reiterated. Verbal and written consent was obtained before the young person completed the instrument. Following this, client participants were asked to complete the forms contained in the research packs. Completed documents were retained by the clinician in a secure cabinet and collected by research assistants periodically.

To assess the SACS's capacity to measure change over a treatment period the instrument was also administered a second time (four to eight weeks later) to a subset of the treatment population. Clinicians diarised the dates for re-testing on a specially designed recording sheet and the research team sent out reminders. When completing SACS a second time, this was done in isolation (i.e. no other instruments were completed) and young people were not

required to sign a consent form. They were, however, given the option of not taking part in the second stage.

Te Ātea Marinō

Consultation with this service identified the need for a more appropriate introductory letter for the parents/guardians of Māori rangatahi clients. The English version of this document was subsequently translated into Te Reo. Following this, the SACS Māori researcher met with the rangatahi team at Te Ātea Marinō and explained the study processes in detail, and clinicians' role within this. The researcher also attended the rangatahi bi-weekly meetings for two months during the data collection process, so they were available to discuss any issues or concerns that arose during this time. After this, contact was predominantly maintained via e-mail and phone (although the researcher also saw clinicians when they picked up completed questionnaire packs from the service).

Tupu

Whilst Tupu had also participated in the pilot stage of the study, staff changes meant that not all clinicians had previously been involved. I therefore attended a meeting at the service and provided an overview of the research. This led to some recommendations being made in relation to the creation of Samoan and Tongan versions of the parents/guardians letter. Following this, the SACS Pacific researcher made individual appointments with the clinicians to discuss the study in greater detail.

Altered High

As I was employed at Altered High at the time the research was being completed, staff working there were in daily contact with me. Thus, as well as making time available during regular team meetings to discuss the implementation and execution of the research, I was also available to discuss on an informal basis any *ad hoc* issues that arose.

To assist clinicians with the collection of data, a client record of participation was developed. This recorded information such as client identifier number, whether or not parents were involved, and the date for follow-up (i.e. to assess the instrument's ability to measure change over time).

Qualitative Feedback

Following completion of the SACS and other research materials, all participants in the psychometric testing stage were offered the opportunity to provide written feedback about the SACS. This consisted of three visual analogue scales ascertaining ease of completion, usefulness and whether the SACS was distressing. Three open-ended questions were included which sought feedback on the instrument and young people's experiences of completing it.

Data Entry, Cleaning and Analysis

In light of the high numbers of study participants in this stage of the research (and implications of this on data handling) I developed a protocol document to guide data entry and analysis procedures for the testing phase of the study.

Data Entry

Data from completed questionnaires were numerically coded and entered into one of two SPSS databases. Prior to the data being entered into the databases, the individual scores for the SACS instrument, and the sub scores and totals for the CRAFFT, POSIT, and SDQ tools, were totalled and recorded in pencil on the actual questionnaires. The first 'core' database contained demographic information, SACS, CRAFFT or POSIT total scores, SDQ sub-score totals and feedback scores. The second 'supplementary' database contained the individual scores for the CRAFFT, POSIT and SDQ. Ethnicity coding used the Statistics New Zealand priority recording system (Statistics New Zealand, 2007)

Data Cleaning

Data cleaning was undertaken via a number of procedures. Firstly, a visual check of the output data was undertaken and obvious discrepancies checked and corrected. Secondly, scattergrams comparing key variables (i.e. SACS scores vs. CRAFFT scores) were constructed to check the raw data for any obvious outliers. For example, people scoring highly on the SACS would be expected to score highly on the CRAFFT also. If this was not the case, their questionnaires were rechecked for data entry errors. Thirdly, the core and supplementary

databases were merged into an excel spreadsheet and the accuracy of the data entry was checked by comparing the totals.

Following this, a further quality assurance process was undertaken. This involved a member of the SACS team (who had not been involved in the initial data entry process) independently checking the data entered against the original questionnaires. Sub-scores were re-calculated for every twentieth questionnaire including a check of total scores for the CRAFFT and POSIT, and the individual scores for the SACS (original and retest), SDQ and feedback questions. Data entry checking for the core data (checking entries in the database against the questionnaire) was undertaken for every tenth questionnaire. Overall, the quality assurance process identified six errors. These appeared to be mostly typing errors made during the data entry process. Overall, this equates to a less than 0.1% error rate, indicating a high standard of data entry accuracy.

Data Analysis

Statistical analysis of the ten item SACS difficulties score was undertaken using the Statistical Package for the Social Sciences (version 13.0, SPSS Inc., Chicago, USA). Internal reliability was examined by calculating the coefficient alpha and by obtaining a split-half reliability coefficient. Stability coefficients were derived using Pearson r correlation technique on test and re-test data from repeated test administrations. Congruent validity coefficients were obtained from Pearson r correlations between results from the SACS Difficulties Score and the two established instruments (CRAFFT and POSIT). A Receiver Operating Characteristics (ROC) Curve was constructed from the questionnaire responses to ascertain the specificity and sensitivity of the SACS. A factor analysis (principal components – unrotated) was carried out to establish the trait structure measured by the SACS. The difference between repeated test scores in the clinical sample was measured using a general linear model approach for repeated measures, followed up by t tests.

Qualitative data were analysed via a general inductive approach, with individual text responses initially reviewed to identify themes. Following this, a coding framework was developed and two members of the research team independently coded data. Identified discrepancies were reviewed and discussed until a decision was made which was acceptable to both parties.

7.3. Results

Description of the sample

Community sample

The community sample comprised 531 participants. This included 193, 121 and 217 participants from each of the three participating schools. Of the 191 consenting participants from the school that undertook the retest procedure, 165 students completed a SACS retest. This included 80 retests one week later and 85 three weeks after the first survey.

Clinical sample

In total, there were 120 participants in the clinical sample. Of these, 46 completed the SACS re-test between four and nine weeks after the original SACS was completed.

Overall sample

Table 14 displays demographic data for the community, clinical, and total samples. There was no significant difference in the gender mix of the two samples (chi squared = 1.9 (1), $p = 0.16$). Although the mean age of the clinical sample was slightly higher than the community sample, Kolmogorov-Smirnov 2 sample testing revealed the differences as non-significant. However the differences between the clinical and community samples with regard to ethnicity (particularly the under-representation of Asians in the clinical sample), living situation and occupation were obvious as evident in the table below. Because of this, and the fact some groups had very small (or zero) frequencies, testing for statistical significance was felt to be inappropriate.

Completion of the SACS

Researchers and clinicians provided informal feedback about any difficulties observed whilst young people completed the SACS. Overall, there were no comments that suggested either population had any significant difficulties with understanding instructions or completing the instrument. Clinical participants took between five and 15 minutes to complete the SACS instrument, whilst young people from the schools took between five and 20 minutes.

Table 14: Demographic characteristics of the community, clinical and total samples

		Clinical (n = 120) n (%)	Community (n = 531) n (%)	Total (n = 651) n (%)
Age (years)	13	8 (7)	59 (11)	67 (10)
	14	17 (14)	137 (26)	154 (24)
	15	32 (27)	129 (24)	161 (25)
	16	29 (24)	77 (15)	106 (16)
	17	17 (14)	82 (15)	99 (15)
	18	17 (14)	39 (7)	56 (9)
	Missing data	0 (0)	8 (2)	8 (1)
Mean age (sd)		15.7 (1.4)	15.2 (1.5)	15.3 (1.5)
Gender	Males	70 (58)	270 (51)	340 (52)
	Females	50 (42)	256 (48)	306 (47)
	Missing data	0 (0)	5 (1)	5 (1)
Ethnicity	European	65 (54)	242 (46)	307 (47)
	Māori	37 (31)	51 (10)	88 (14)
	Pacific	14 (12)	70 (13)	84 (13)
	Asian	2 (2)	152 (29)	154 (24)
	Other	1 (<1)	14 (3)	15 (2)
	Missing data	1 (1)	2 (<1)	3 (<1)
Living situation	Independently	5 (4)	0	5 (<1)
	Parents	86 (72)	510 (96)	596 (92)
	Other relation	19 (16)	19 (4)	38 (6)
	CYF	10 (8)	0 (0)	10 (2)
	Missing data	0 (0)	2 (<1)	2 (<1)
Occupation	Sec. School	61 (51)	531 (100)	592 (91)
	Tert. training	5 (4)	0	5 (<1)
	Other training	11 (9)	0	11 (2)
	Employed	21 (18)	0	21 (3)
	Unemployed	21 (18)	0	21 (3)
	Missing data	1 (<1)	0	1 (<1)

n = number; sd = standard deviation; CYF = 'in social services custody/placement'; Sec = Secondary; Tert = Tertiary

Reliability

Internal consistency

Two internal consistency estimates of reliability were calculated using item responses for the SACS difficulties items from the combined community and clinical sample (n=633).

- *Coefficient Alpha* - 0.91.
- *Split-half reliability* - The item responses were split into two groups (items 1,3,5,7,9 vs. items 2,4,6,8,10); the Spearman-Brown corrected correlation (split-half coefficient) was 0.93.

Both values indicate very good internal reliability.

Test-retest reliability (stability)

This was estimated by computing Pearson product-moment correlation coefficients (r) from repeated administrations of the SACS in subsets of the community population after one week ($n = 78$) and after three weeks ($n = 83$).

- The one week test-retest stability coefficient was 0.91 ($p < 0.01$)
- The three week test-retest stability coefficient was 0.88 ($p < 0.01$)

Validity

Construct Validity

The dimensionality of the 10 items in the SACS was analysed by carrying out a factor analysis using the correlation matrix from the community sample ($n = 531$). Principal components analysis (unrotated) of the SACS difficulties items yielded two factors that accounted for 49% of the item variance. All items loaded onto the first factor accounting for 37% of the variance. The loadings of the items on this first component were fairly similar in value, suggesting it is appropriate to sum all SACS difficulties item values to form the SACS Difficulties Score. All items loaded higher on the first component than for the second factor except for item 10, as shown in Table 15, suggesting that this second component was not of significant importance relative to the first.

Table 15: SACS Difficulties Scale component matrix

SACS Difficulties Score Item	Component	
	1	2
1. I took alcohol or drugs when I was alone	.556	-.536
2. I've thought I might be hooked or addicted to alcohol or drugs	.594	-.499
3. Most of my free time has been spent getting hold of, taking, or recovering from alcohol and drugs	.685	-.091
4. I've wanted to cut down on the amount of alcohol and drugs that I am using	.629	-.245
5. My alcohol and drug use has stopped me getting important things done	.759	-.025
6. My alcohol or drug use has led to arguments with the people I live with (family, flatmates or caregiver etc.)	.579	0
7. I've had unsafe sex or an unwanted sexual experience when taking alcohol or drugs	.545	.258
8. My performance or attendance at school (or at work) has been affected by my alcohol or drug use	.700	.384
9. I did things that could have got me into serious trouble (stealing, vandalism, violence etc) when using alcohol or drugs	.557	.262
10. I have driven a car while under the influence of alcohol or drugs (or have been driven by someone who was under the influence of alcohol or drugs)	.428	.522

Congruent Validity – comparison with other AOD instruments

Two congruent validity coefficients were obtained from comparing the scores of the SACS Difficulties Score against two established youth AOD instruments, in both community and clinical populations.

- The CRAFFT (n = 366), Pearson correlation coefficient (r) = 0.80 (p < 0.01)
- POSIT (n = 382), Pearson correlation coefficient (r) = 0.90 (p < 0.01).

The SACS scores were also compared against the subscales and the total score of the SDQ.

Table 16 details the Pearson product-moment correlation coefficients for these comparisons.

Table 16: Pearson r correlations of SACS Difficulties scores vs. other instrument scores (and subscales)

Scale	CRAFFT	POSIT	SDQ emotional symptoms	SDQ conduct problems	SDQ hyper-activity	SDQ peer problems	SDQ prosocial behaviour	SDQ total
SACS (n)	.80* (366)	.90* (382)	.27* (618)	.53* (624)	.42* (613)	.15* (620)	-.09** (620)	.50* (583)

*= correlation is significant at the 0.01 level; **= correlation is significant at the 0.05 level

Congruent Validity – comparison with SACS frequency scale

The first part of the SACS records the frequency of occasions of substance use over the last month (the same time frame that is used for the SACS Difficulties Score). By making the assumption that those participants using substances on a daily basis are likely to have more difficulties than those using less frequently or not at all, then we can compare the SACS Difficulties Score with the SACS frequency scale to see how they are related.

To achieve this we allocated scores (*Never = 0, Once a week or less = 1, More than once a week = 2, Most days or more = 3*) to the frequency scale and examined the strength of the relationship between the alcohol and cannabis frequency scale scores (0-3), and the combination of these two scores (0-6), with the SACS Difficulties Score (0-20) using person r correlation. The results are displayed in Table 17 below. SACS Difficulties Scores are correlated more closely to frequency of cannabis use alone and frequency of cannabis and alcohol use combined, than to alcohol use alone.

Table 17: Pearson r correlations of SACS Difficulties scores vs. SACS frequency scale scores

Scale	Alcohol	Cannabis	Alcohol & cannabis total
SACS (n)	0.55* (633)	0.75* (633)	0.76* (633)

* correlation is significant at the 0.01 level

For reference, the mean scores of the clinical and community groups (with regard to the SACS Difficulties Score and frequency of use scores) are presented in Table 18 below. This shows that, as one might expect, there were significant differences in the frequency of use between the clinical and the community participants.

Table 18: Mean scores of SACS Difficulties scale, and SACS frequency scales scores in the community versus the clinical population

Mean score (sd)	Clinical	Community	Mean score difference	t score (df)	p value
	Mean score (sd)	Mean score (sd)			
SACS difficulties score	8.6 (5.4)	0.9 (2.1)	7.6	24.8 (631)	<i>p</i> < 0.01
Alcohol frequency scale score	1.3 (0.8)	0.6 (0.6)	0.7	10.2 (641)	<i>p</i> < 0.01
Cannabis frequency scale score	1.5 (1.2)	0.2 (0.5)	1.4	19.6 (641)	<i>p</i> < 0.01
Combined alcohol and cannabis frequency scale score	2.8 (1.7)	0.7 (1.0)	2.1	18.0 (641)	<i>p</i> < 0.01

sd = standard deviation; df = degrees of freedom

Concurrent Validity - Discriminant Function Analysis

Table 19 shows the distributions of SACS Difficulties Scores for the community and clinical groups respectively.

Table 19: Frequency of total SACS Difficulties scores by population

SACS difficulties score / 20	Clinical (n = 117)	Community (n = 516)	Total (n = 633)
0	8	355	363
1	8	59	67
2	6	34	40
3	4	21	25
4	4	13	17
5	4	7	11
6	10	4	14
7	10	8	18
8	6	4	10
9	9	5	14
10	3	2	5
11	4	2	6
12	12	1	13
13	4	1	5
14	4	0	4
15	1	0	1
16	8	0	8
17	8	0	8
18	2	0	2
19	1	0	1
20	1	0	1

Applying discriminant function analysis with jack-knife cross validation to the data from both the clinical and community groups yielded the results below. The SACS scale correctly identified 90% as from either the clinical or community group (see Table 20).

Table 20: Discriminant function analysis classification results

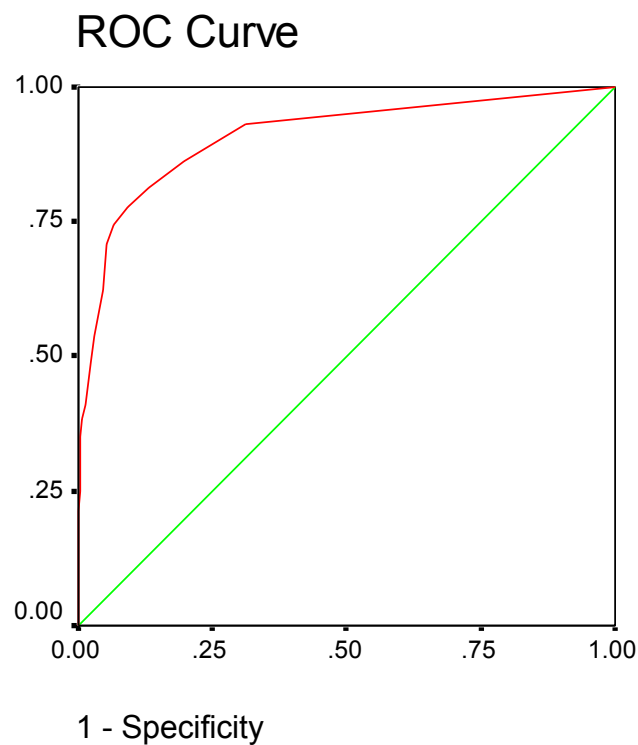
Clinical or community population		Predicted Group Membership		Total
		Clinical	Community	
N	Clinical	87	30	117
	Community	34	482	516
%	Clinical	74.4	25.6	100.0
	Community	6.6	93.4	100.0

NB: Cross validation is done only for those cases in the analysis. In cross validation, each case is classified by the functions derived from all cases other than that case. 89.9% of cross-validated grouped cases correctly classified.

Concurrent validity - Receiver Operating Characteristics (ROC)

A ROC curve estimate (no cross-validation) was calculated using the SACS Difficulties Score to predict membership of the clinical or community sample. As shown in Figure 1, the area under the curve was 91%, indicating high predictive value for the test. This means that the SACS was good at distinguishing between the clinical and community participants.

Figure 1: Receiver Operating Characteristics curve for the SACS Difficulties score predicting membership of the clinical sample.



Diagonal segments are produced by ties.

A SACS Difficulties Score of 2/20 predicted membership of the clinical group with a sensitivity of 86% (see Table 21). This means that there is an 86% probability that the test will positively identify a true clinical case. Using the same cut-off value, the SACS Difficulties Score has a specificity (the probability that the test will exclude the community cases) of 81%.

This estimate is, however, conservative as some of the clinical cases were not actively using substances at the time, i.e. they attended for support around a significant other's substance

use or were attending for relapse prevention work. There are also likely to be undeclared clinical cases in the community sample.

Table 21: Sensitivity and specificity of SACS Difficulties scores (%) in community vs. clinical populations

SACS Difficulties score	Clinical % (n=117)	Clinical cumulative %	Community % (n=516)	Community cumulative %	Sensitivity %	Specificity %
0	6.8	6.8	68.8	68.8		
1	6.8	13.6	11.4	80.4	93	69
2	5.1	18.7	6.6	86.7	86	81
3	3.4	22.1	4.1	90.8	81	87
4	3.4	25.5	2.5	93.3	78	91
5	3.4	28.9	1.4	94.7	74	93
6	8.5	37.4	.8	95.5	71	95
7	8.5	45.9	1.6	97.1	62	96
8	5.1	51.0	.8	97.9	53	97
9	7.7	58.7	1.0	98.9	49	98
10	2.6	61.3	.4	99.3	41	99
11	3.4	64.7	.4	99.7	39	
12	10.3	75.0	.2	99.9	35	
13	3.4	78.4	.2	100	25	
14	3.4	81.8	.0		21	
15	.9	82.7	.0		18	
16	6.8	89.5	.0		17	
17	6.8	96.3	.0		10	
18	1.7	98.0	.0		03	
19	.9	98.9	.0		02	
20	.9	100	.0		01	

Ability to detect change

Forty-six clinical cases that actively remained in treatment repeated the SACS after four weeks (mean repeat interval was five weeks).

The mean (sd) SACS Difficulties Score for the first administration was 9.2 (5.1) and for the second, 5.3 (4.2), a difference of 3.9. The range of change in the SACS Difficulties Score is shown in Table 22. This extended from a decrease in score (improvement) of 16, to an increase (worsening) of 10.

Table 22: Range of change in SACS Difficulties scores in 46 treatment cases

Change in SACS score	Frequency (n)	%	Cumulative %
-10	1	2.2	2.2
-5	1	2.2	4.3
-3	1	2.2	6.5
-2	2	4.3	10.9
-1	2	4.3	15.2
0	7	15.2	30.4
1	3	6.5	37.0
2	5	10.9	47.8
3	2	4.3	52.2
4	4	8.7	60.9
6	3	6.5	67.4
7	3	6.5	73.9
8	1	2.2	76.1
9	3	6.5	82.6
10	3	6.5	89.1
11	1	2.2	91.3
12	2	4.3	95.7
14	1	2.2	97.8
16	1	2.2	100.0
Total	46	100	

General Linear Model (GLM) for repeated measures

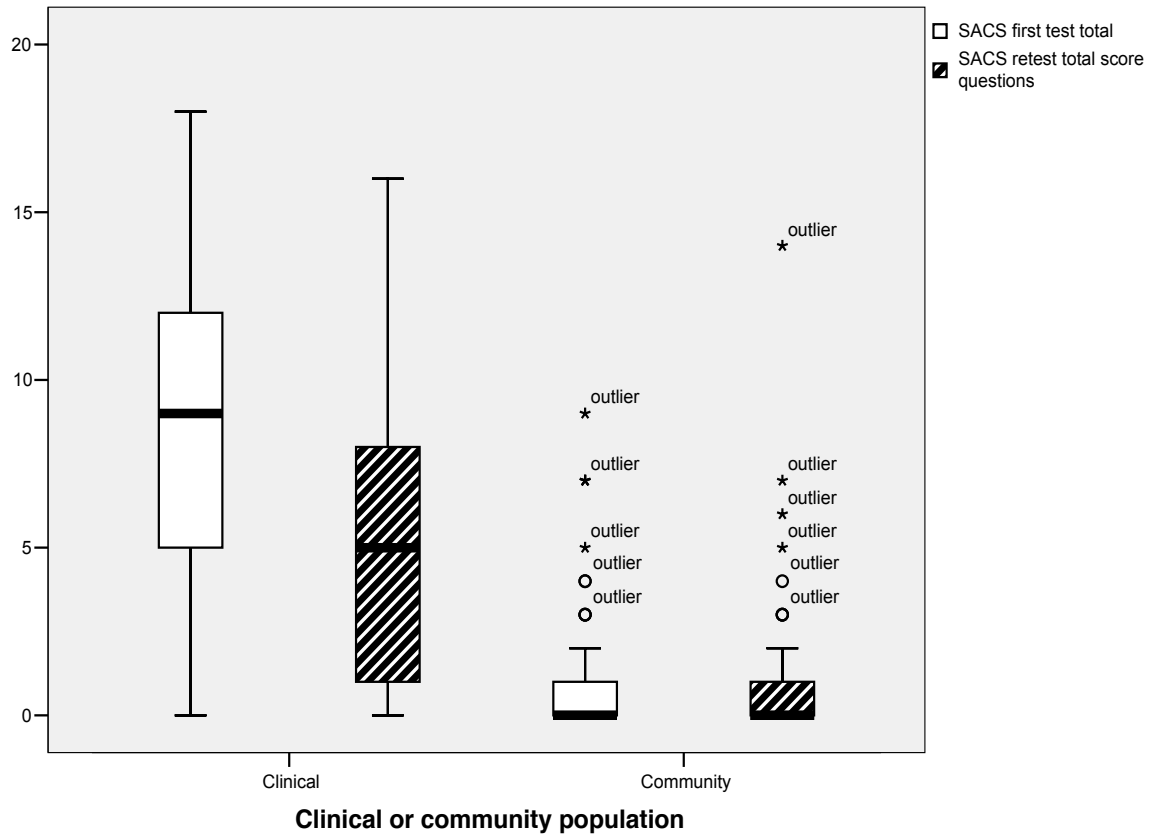
To determine whether the SACS could detect change over time, a general linear model for repeated measures was conducted in those clinical cases ($n = 46$) that repeated the SACS after 4 or more weeks (mean repeat interval was 5 weeks). The mean (sd) SACS difficulties score for the first administration was 9.2 (5.1) and for the second, 5.3 (4.2). The range of change in the SACS difficulties score extended from a decrease in score of 16, to an increase of 10 (see Figure 2).

To determine whether this difference represented a significant change over time a one-way within-subjects general linear model for repeated measures was conducted in the 46 clinical cases that repeated the SACS.

The results for the general linear model indicated a significant time effect in the treatment sample (Wilks' Lambda = 0.64, $F(1,45) = 25$, $p < 0.001$). Post hoc paired t-testing indicated there were highly significant differences between the two scores (mean (sd) = 3.9 (5.3), $t(45) = 5.00$, $p < 0.001$). A similar analysis conducted on the 3 week retest non-treatment sample (n

= 79) revealed no significant difference between the mean scores over time (Wilks' Lambda = 0.99, $F(1,78) = 0.38$, $p = 0.54$, post-hoc paired t-test; mean diff. = 0.11, $SD = 1.64$, $t(78) = 0.62$, $p = 0.54$).

Figure 2: Comparison of test and re-test scores for clinical and community populations



GLM for repeated measures with controlled design

The General Linear Model was repeated using results from a more specific clinical group of 26 patients who repeated the SACS over a test-retest interval of four or five weeks. This group was chosen as it had a re-test interval close to the community re-test sample ($n = 79$) that repeated the SACS after three weeks. The results ($F_{1,103} = 106$, $p < 0.001$, Pillai's Trace = 0.189) in this controlled test were also significant and support the previous findings that there is a time-effect in the clinical treatment sample.

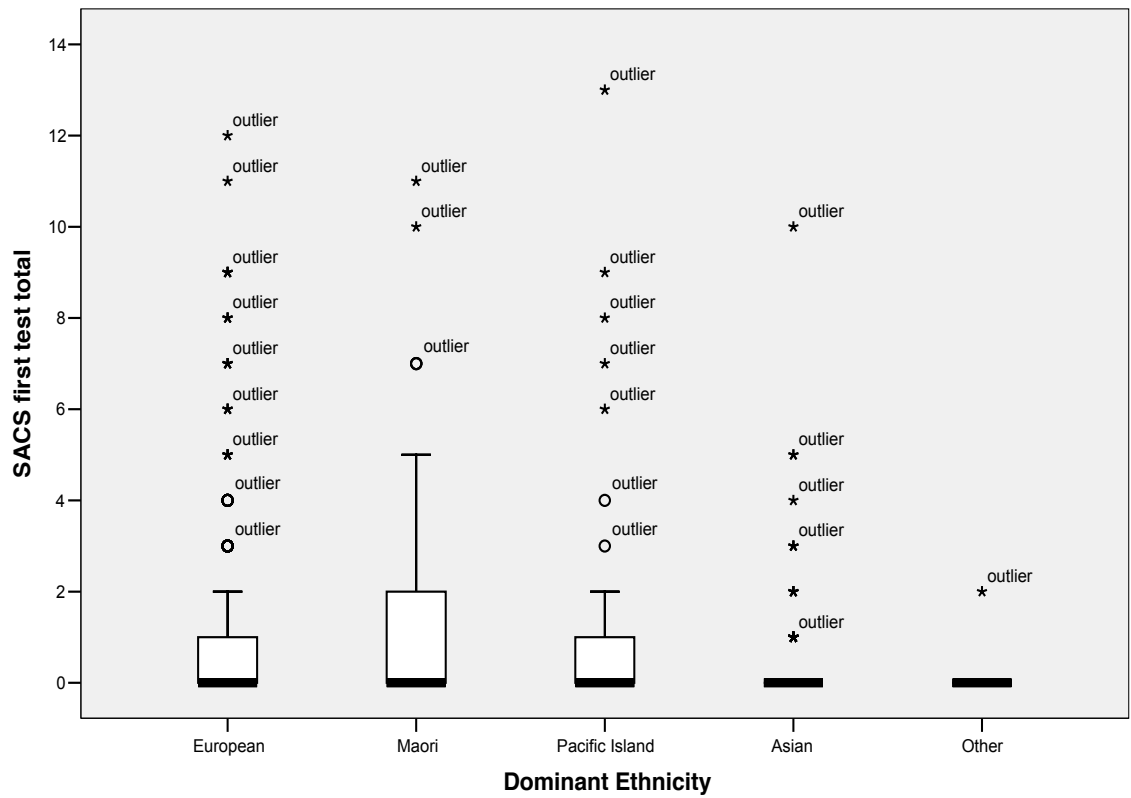
Performance of the SACS across ethnicities

The distribution of responses for the most common ethnic groups is taken from the community sample and shown in Table 23 and Figure 3. There was some variation in means scores, with the highest mean SACS Difficulties score in Maori young people (1.6) and the lowest in Asian young people (0.4).

Table 23: Mean SACS difficulties scores by ethnicity

SACS Difficulties Score	Ethnicity					Total
	European	Māori	Pacific	Asian	Other	
<i>Mean</i>	1.2	1.6	1.1	0.4	0.2	1.0
<i>Score frequency (%)</i>						
0	150 (62.5)	28 (56)	41 (63.1)	124 (84.4)	11 (91.7)	354 (68.9)
1	31 (12.9)	5 (10)	10 (15.4)	12 (8.2)	0	58 (11.3)
2	17 (7.1)	5 (10)	7 (10.8)	4 (2.7)	1 (8.3)	34 (6.6)
3	14 (5.8)	3 (6)	1 (1.5)	3 (2)	0	21 (4.1)
4	8 (3.3)	3 (6)	1 (1.5)	1 (.7)	0	13 (2.5)
5	4 (1.7)	1 (2)	0	2 (1.4)	0	7 (1.4)
6	3 (1.3)	0	1 (1.5)	0	0	4 (.8)
7	4 (1.7)	3 (6)	1 (1.5)	0	0	8 (1.6)
8	3 (1.3)	0	1 (1.5)	0	0	4 (.8)
9	4 (1.7)	0	1 (1.5)	0	0	5 (1.0)
10	0	1 (2)	0	1 (.7)	0	2 (.4)
11	1 (.4)	1 (2)	0	0	0	2 (.4)
12	1 (.4)	0	0	0	0	1 (.2)
13	0	0	1 (1.5)	0	0	1 (.2)
Total	240	50	65	147	12	514

Figure 3: SACS difficulties scores in community population by ethnicity



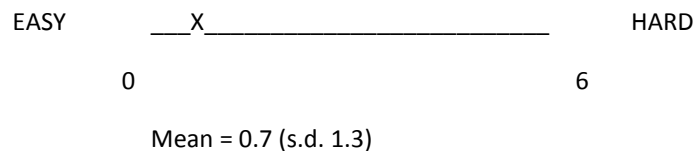
Acceptability of the SACS instrument

Acceptability amongst overall sample

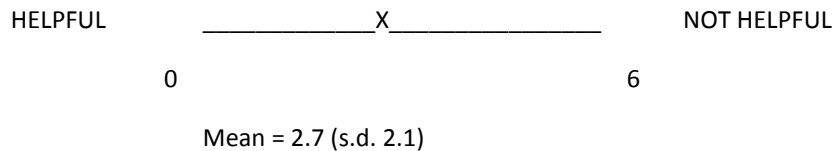
Eighty-seven percent of young people provided information about the acceptability of the SACS by marking crosses on 3 visual analogue scales or providing written comments.

Participants were asked to rate the SACS instrument in terms of how *'easy'*, *'helpful'* and *'upsetting'* it was to complete via a visual analogue scale. Results are demonstrated below with responses scored between 0 – 6 depending on where participants marked the line on the scale provided. A total of 631 responses to this question were received.

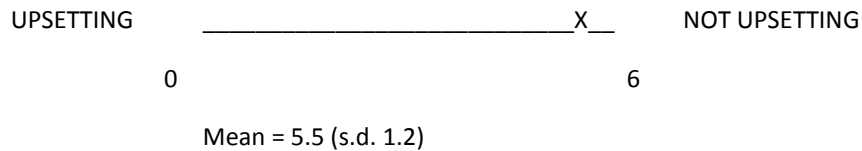
a) I found the SACS questionnaire to be



b) I found the SACS questionnaire to be



c) I found that the SACS questionnaire was



Acceptability amongst Māori participants

Eighty-four Māori young people (95% of the total Māori sample) completed the visual analogues. Similar results to the overall sample were evident when comparing the acceptability of the instrument amongst Māori participants. The mean scores for the three main criteria amongst this group were as follows: easy→hard = 0.9 (compared to 0.7 for the overall sample); helpful→not helpful = 2.4 (compared to 2.7 for the overall sample); upsetting→not upsetting = 5.5 (compared to 5.5 for the overall sample).

Acceptability amongst Pacific participants

Seventy-six Pacific young people (91% of the total Pacific sample) completed the visual analogues. As with the Māori sample, results from Pacific participants were similar to those from the overall sample. The mean scores for the three main criteria amongst this group were as follows: easy→hard = 0.8 (compared to 0.7 for the overall sample); helpful→not helpful = 1.5 (compared to 2.7 for the overall sample); upsetting→not upsetting = 5.6 (compared to 5.5 for the overall sample).

General Feedback on Completing the SACS Instrument

The feedback form (which was optional for young people to complete) also asked participants what they liked and didn't like about the instrument, and gave them the opportunity to make any other comments on the SACS instrument. Responses to each question were categorised under broad themes, and are presented below.

Question One: 'What did you like about the SACS questionnaire?'

A total of 499 young people responded to this question. A breakdown of responses by emergent theme is provided in Table 24.

Table 24: Breakdown of responses to question one: “What did you like about the SACS questionnaire?”

Theme / Overview of Responses	No. of responses
<p><i>It was easy to understand or complete</i></p> <p>A large number of recorded comments referred to the ease of completing the instrument and the fact that it was “simple” and “easy” to fill in. For many participants this was linked specifically to the ‘tick-a-box’ format. In addition, some young people commented on the “straightforward”, easily understood questions.</p>	200
<p><i>It helped me understand or think about my own behaviour</i></p> <p>A key issue related to the experience of completing the SACS instrument was that many young people stated that it led them to consider their own drug taking behaviour. Some appreciated the opportunity to reflect on this, and a number reported that they had realised or learnt something new about their own substance use.</p>	89
<p><i>It contains good questions / a good range of questions</i></p> <p>The nature of the questions or range of questions in the SACS instrument was appealing to some participants. Some simply commented that they liked “the questions” whilst others referred to the variety or detailed nature of the questions included.</p>	42
<p><i>It will help people</i></p> <p>Some participants liked the fact that their contribution to the SACS project would help people. This included assisting young people generally with regard to their drug taking, as well as (to a lesser degree) providing help to the research team.</p>	30
<p><i>It was confidential to complete</i></p> <p>A number of comments received related to the confidential nature of the instrument, and the fact that they felt they were able to answer honestly.</p>	23
<p><i>Nothing</i></p> <p>A proportion of participants commented that they liked “nothing” about the SACS instrument.</p>	22
<p><i>It explores issues relevant to young people</i></p> <p>The inclusion of relevant and topical questions for young people was highlighted by some participants as an appealing feature of the SACS instrument (e.g. “they went over most things teenagers go through”).</p>	9
<p><i>Design or layout of the instrument</i></p> <p>The design or layout of the SACS instrument was appealing to some participants. They commented positively on aspects such as the colour of the paper, or the overall organised layout of the instrument.</p>	9
<p><i>Time away from class</i></p> <p>Some young people liked the fact that participating in the study allowed them to get time off from their usual school classes.</p>	8
<p><i>‘Other’ comments</i></p> <p>A wide range of ‘other’ responses were recorded which did not fit into the above categories. These referred to issues such as the voluntary nature of participation (e.g. “you get to choose to answer or not”), the fact that the SACS did not “ask too personal questions” and the nature of the SDQ.</p>	73

N.B. Does not add up to 499 due to some responses containing references to more than one theme.

Question Two: 'What didn't you like about the SACS questionnaire?'

A total of 404 young people responded to this question. A breakdown of responses by emergent theme is provided in Table 25.

Table 25: Breakdown of responses to question two: "What didn't you like about the SACS questionnaire?"

Theme / Overview of Responses	No. of responses
<p><i>Nothing / nil</i></p> <p>The vast majority of participants responded that there was "nothing" that they disliked about the SACS.</p>	190
<p><i>Lack of personal relevance</i></p> <p>A number of participants felt that the instrument was not relevant for them. This mostly concerned young people who stated that they did not use substances (problematically) and felt that the questionnaire was only applicable to those who did. A minority also mentioned the lack of relevance of the driving questions, given that they (and their friends) were not old enough to drive.</p>	32
<p><i>Response categories</i></p> <p>A proportion of respondents did not like the response categories utilised in the SACS instrument. In particular, several commented on the 'not true', 'somewhat true' and 'certainly true' structure of the SACS items, whilst others did not like the fact that patterns of behaviour were only recorded over the last month (most who commented on this felt that the time period should have been extended). Less prevalent issues raised included a preference for separating out responses to alcohol vs. illicit drug taking behaviour, and a view that it would have been beneficial to also measure the amount of alcohol/drugs taken (rather than just the frequency of use).</p>	25
<p><i>The questions</i></p> <p>The nature or content of questions was an issue for some young people. Several felt that the questions were too "vague", whilst others found them "confusing" or "hard to understand".</p>	25
<p><i>The questionnaire or questions were repetitive</i></p> <p>A number of comments were received about the repetitive nature of the SACS. These mostly included remarks about the similar nature of individual questions, which made the instrument appear repetitive.</p>	24
<p><i>Personal nature of the instrument</i></p> <p>Some young people commented that they found the instrument, or individual questions within it, "too personal". Whilst most did not elaborate on this issue, a small number explained that, in light of the personal nature of the information they had provided, they were concerned that somebody might see their answers.</p>	23
<p><i>The length of the SACS</i></p> <p>The SACS instrument was considered "too long" by a number of respondents.</p>	16
<p><i>Don't know</i></p> <p>A small number of young people stated "don't know" when asked what they didn't like about the instrument.</p>	7
<p><i>Other</i></p> <p>'Other' responses included comments on the layout or design of the instrument (e.g. "there were too many boxes" and "the colour of the paper") or related to participants' experience of completing the SACS (e.g. "sometimes I could write more about it than just tick something" or "it was too easy"). Some comments coded as 'other' were difficult to interpret, given the paucity of information provided.</p>	65

N.B. Does not add up to 404 due to some responses containing references to more than one theme.

Question three: 'If you have any other comments that you would like to make please put them here.'

A total of 131 young people responded to this question. A breakdown of responses is provided in Table 26.

Table 26: Breakdown of responses to question three "If you have any other comments that you would like to make, please put them here".

Theme / Overview of Responses	No. of responses
<i>No / nothing / no comment</i> Where this question had been completed, most made a 'no comment' response.	48
<i>Suggestions for improving questions / the questionnaire</i> A number of participants made suggestions for improving the SACS instrument. These mostly related to inserting new questions (e.g. "could add a question like have you purposely hurt yourself while using drugs") or changing the structure or layout of the SACS (e.g. "Allow space for someone to further comment on their answer maybe").	25
<i>It was a good questionnaire / I enjoyed participating</i> Several comments received from young people referred to their enjoyment in completing the instrument and the fact that they considered it a "good" questionnaire.	18
<i>It will help people</i> Some participants commented here that they liked the fact that their contribution to the SACS project would help people.	8
<i>Thank you</i> Several young people inserted a 'thank you' to the research team – either for the opportunity to participate, or in appreciation of the fact that an instrument for youth was being developed	8
<i>Lack of personal relevance</i> A number of participants made comments about the instrument not being relevant for them, given the subject matter (i.e. alcohol and other drug use).	6
<i>It helped me understand or think about my own behaviour</i> As identified in responses to question one, the experience of completing the SACS instrument resulted in some young people considering their drug taking behaviour.	5
<i>Other</i> Several 'Other' responses were non-specific (e.g. "peace out") whilst a small number asked questions about the research process or how the data was going to be utilised (e.g. "how will you use this information to help people my age using such substances?").	23

N.B. Does not add up to 131 due to some responses containing references to more than one theme.

7.4. Discussion

Description of the Substances and Choices Scale

The SACS instrument reports on a young person's behaviour and functioning over the previous month. Young people's recall of their substance use over this time frame has been shown to be reliable (Levy, Sherritt, Harris et al., 2004; Martin et al., 1998).

The SACS is structured in three sections. The first and third sections of the SACS record the frequency (never, once a week or less, more than once a week, or most days or more) of occasions of substance use over the last month. This provides a means of monitoring frequency of use and is a useful guide for both clinicians and clients in planning and monitoring patterns of drug taking behaviour. The instrument has been designed so that the young person's substance use (excluding tobacco) is considered first, both orientating the participant to consider their recent substance use, and hopefully improving the accuracy of responses for the SACS Difficulties Score recorded in the second section.

The frequency of tobacco (nicotine) use is asked about last, after the items making up the SACS Difficulties Score. Although nicotine is a highly addictive substance, it has mainly physical health implications, which are usually tackled by public health initiatives rather than via addiction services. Positioning this question after the SACS difficulties items ensures that responses do not confound answers (regarding alcohol and other drugs) provided for the SACS Difficulties Score in the second section. If tobacco was not separated out from the other substances, a young person who, for example, smokes cigarettes alone and argues with their parents about their cigarette smoking, would score highly on the SACS. Arguably this would diminish the usefulness of the SACS in terms of identifying a young person's problems with alcohol and other drugs of abuse.

The second section yields the SACS Difficulties score on a continuum from 0 to 20, which reflects the severity of a young person's difficulties at a distinct point in time. This score can be tracked over the course of a treatment episode via repeated administrations of the instrument to provide useful comparative data, and following discharge, to measure outcome.

The SACS Difficulties Score items are structured similarly to the SDQ and consist of statements to which participants respond via a three-item Likert scale: *not true*, *somewhat true* or *certainly true*. This system is different to those used in most available AOD instruments, which rate answers on a yes/no dichotomy. As such, it has the advantage of

yielding a wide range of scores from just 10 items. In addition, young people have reported preference for three-item scales as they provide a more realistic, less 'black and white' choice of options for the responder (Merry et al., 2004).

As described in Chapter 4, the design and final selection of items for the SACS Difficulties Score was influenced by literature reporting the frequency of specific symptoms, and the relevance and reliability of these symptoms in young people with SUD (Harrison et al., 1998; Lewinsohn et al., 1996; Stewart & Brown, 1995; Winters, 1999b). Although the SACS Difficulties items share many similarities to established diagnostic criteria, there are also significant differences. For example, items exploring physical symptoms of substance dependence and physical health problems secondary to substance use were not included as such symptoms usually take years to develop and are uncommon in adolescents (Harrison et al., 1998; Lewinsohn et al., 1996; Martin et al., 1995). Furthermore young people report the experience of withdrawal unreliably, and withdrawal symptoms are rare in adolescent users, usually psychological in nature (i.e. tiredness, anxiety, depression) and thus at risk of being confounded by symptomatology of co-existing mental illness (Stewart & Brown, 1995). Likewise tolerance has relatively poor sensitivity and specificity as a marker for dependence problems in young people (Chen & Anthony, 2003; Chung et al., 2001; Chung et al., 2004), differs from substance to substance (American Psychiatric Association, 2000) and between individuals.

The SACS Difficulties score consists of five items that explore the context of use and five items exploring behaviours indicative of serious consequences of use or harm (appendix). Although this division arguably approximates the ICD and DSM IV concepts of *substance dependence* (a maladaptive pattern of use) and *substance abuse* (maladaptive consequences of use), principal components analysis of our data did not support this demarcation.

The evidence as to whether substance use problems in young people should be demarcated using a bi-dimensional (abuse–dependence) framework is conflicting, with slightly more support for the concept of symptoms occurring as a continuum, where accumulation of symptoms or problems indicates increasing severity of disorder (Fulkerson et al., 1999; Harrison et al., 1998; Lewinsohn et al., 1996; Winters et al., 1999). The SACS Difficulties score represents a continuum, skewed to represent the more severe end of the spectrum of AOD problems in young people.

Advantages of the SACS

I believe that the SACS has a number of advantages over existing instruments. The SACS has been developed exclusively for young people via a standalone project with no competing aims. That the SACS focuses on measuring one construct only (i.e. substance use difficulties) is a strength when compared to instruments such as the DUSI and POSIT, which are designed to measure a full range of problem behaviours. Furthermore, unlike instruments such as the Teen Addiction Severity Index (T-ASI) (Kaminer, Wagner, Plummer et al., 1993) the SACS has not been adapted from existing adult screening tools. This means that the items measured are specifically relevant to young people, thereby increasing its efficiency. Evidence of this is its very good internal reliability despite being made up of only 10 items.

Consultation with young people has led to the development of an unambiguous instrument that has good face validity. Confusing or misinterpreted items were discarded or altered during the development process so that those items making up the final SACS Difficulties Score are easily understood, with their meaning unlikely to be confounded by competing concepts.

The SACS appears to be highly acceptable to young people. Young people found it 'Easy', 'Helpful' and 'Not distressing'. Key positive aspects of the instrument identified by participants included how easy it was to understand and complete the questions, the opportunity it provided for them to consider their own (drug-taking) behaviour, the confidential nature of the tool and the fact that such an instrument would prove beneficial to young people generally. By comparison, a relatively small number of negative comments were received, with the majority of participants indicating 'nothing', when asked what they did not like about the SACS. There were no significant differences in the responses of Māori and Pacific youth, as compared to the overall sample.

The SACS has excellent psychometric properties. From our sample we demonstrated reliability and validity that is comparable or superior to existing instruments. Its internal reliability is excellent; good internal reliability is more difficult to achieve with fewer number of items. The stability of community population scores, shown by the high test-retest coefficient over both a one and three week period suggests that independent of its validity, it is a reliable measure of behaviour. Its high sensitivity and specificity at predicting members of a treatment population versus a community population is an indication of its practicality in naturalistic clinical situations and means that it is likely to be useful as a screening instrument.

The SACS difficulties score yields a numerical score out of twenty that reflects the severity of a young person's difficulties at a distinct point in time. This score can be tracked over the course of a treatment episode and following discharge, via repeated administrations of the instrument. Within the treatment population, we demonstrated a significant change in scores over time. Those young people who remained engaged in outpatient treatment during the study had a mean reduction in their SACS score of 37%. The range of change was large, as was the mean change, thus this provides confidence that the SACS will be useful as an outcome measurement instrument and that repeating the SACS at intervals during treatment will provide useful comparative data.

Limitations of the SACS

Whilst psychometric testing and qualitative feedback on the SACS have identified broadly positive results, it is important to highlight the limitations of the instrument.

Ideally, we would have been able to test the SACS Difficulties Score against a structured interview (the 'gold standard' diagnostic test in mental health research) yielding formal DSM-IV diagnoses, but within the scope of this study this was not possible. In considering the impact of this, it is worth highlighting that the validity of DSM-IV substance use disorder diagnoses in adolescents remains controversial (Deas et al., 2000; Harrison et al., 1998) and obtaining high correlation with adult-oriented diagnostic criteria is no guarantee of validity. Importantly, the SACS predicts membership of a clinical population attending a specialist AOD service with high sensitivity and specificity. This is reassuring as it indicates that the 10 items making up the SACS are indicative of difficulties that are of a severity that requires clinical attention and, as such, are sound and efficient markers of AOD problems. The lack of data comparing the SACS against formally generated diagnoses should not be a deterrent to its use in clinical services up until a time when the appropriate research can be undertaken.

The intention when designing the SACS was to have a combination of positively and negatively scored questionnaire items similar to the SDQ. Indeed, the fact that the SDQ is not problem saturated and considers resilience factors is one reason it is highly regarded and acceptable to young people and their families (Merry et al., 2004). We included positively framed items in the preliminary versions of the instrument (e.g. *'My alcohol and drug use was under control'*), but feedback from young people during the consultation phase and pilot testing indicated that these items were being misunderstood and reported incorrectly.

Thus, they were not included in the final version of the SACS. Although it is disappointing that the final instrument appears as a list of 'problems', this limitation is mitigated somewhat by the fact that the SACS is intended to be used in conjunction with the SDQ.

The New Zealand sample of participants involved in the SACS project included European, Asian, Pacific and Māori young people and although there were slight differences in mean scores between ethnicities, these were minimal and overall the SACS performed similarly across these groups. However our New Zealand sample had low numbers of other ethnicities such as Afro-Caribbean. It is anticipated that, in the future, use and research of the SACS in global settings will occur, hopefully confirming its acceptability and relevance across a wider range of communities.

We were not able to test the SACS against an instrument that measures functioning over a similar time frame (one month). However, had we been able to do this, one might expect to see greater concurrent validity than has been reported. The Pearson correlation for the POSIT (measuring functioning in the last 2 months) was greater than for the CRAFFT which measures functioning in the extended past (have you ever...?) and this is likely to be partly on account of the different timeframe employed by each instrument.

7.5. Conclusions

This final part of the SACS project aimed to establish the psychometric credentials of a new substance use screening and outcome measurement for young people, the Substances and Choices Scale or SACS. The study was successful in that it effectively demonstrated that this brief AOD instrument is highly acceptable to young people and has good reliability and validity (Christie, Marsh, Sheridan et al., 2007). It not only screens effectively for problematic AOD use but can also measure change over time making it valuable as an outcome measurement instrument. It has been designed in a similar structure and format to the SDQ, which has a proven track record in services, has been translated into a number of languages and has been validated in countries (Woerner, Fleitlich-Bilyk, Martinussen et al., 2004).

The combination of the SDQ and SACS enables the potential screening and measurement of functioning across a spectrum of psychosocial areas including emotional symptoms, conduct problems, prosocial behaviour, peer relations, attention/hyperactivity symptoms, and symptoms and harm related to substance use.

The final step in this journey to develop and test our new AOD screening instrument was to ensure that it was made easily available to youth clinicians in New Zealand and around the world. This was achieved via the creation of the www.sacsinfo.com website, which is detailed in the final discussion chapter of this thesis.

8. Attitudes, skills and knowledge change in CAMHS workers following AOD screening and brief intervention training

8.1. Introduction

As was shown in the study detailed in Chapter 3, about 40% of adolescents attending mental health services will have a coexisting alcohol and other drug (AOD) disorder (Christie et al., 2010). However, only a quarter of these young people are identified and even fewer are treated (King et al., 2000; Kramer et al., 2003; Skinner et al., 2009). Mental health professionals' reluctance to provide addiction assessment and treatment for young people may be because they lack familiarity with this kind of work, rather than the required skills or knowledge (Skinner et al., 2009).

Following the development of the SACS I began to field frequent requests for general addiction and/ or 'SACS' training from the youth mental health sector, more than I could deliver. By this time I had been providing a variety of training to the sector for some years and had increasing doubts about whether providing isolated training in 'AOD treatment' actually led to addiction issues being addressed effectively in CAMHS. My suspicion was that it just created better-trained clinicians, ones who may have more knowledge, but who did not apply it. Because of this my focus turned to how I might help equip workers with a short, straightforward and practical AOD activity that they could undertake with the young people in their service, rather than providing general AOD theory and training. My hope was that this would lead to actual AOD work with CAMHS clients, and that the experience of success in this would then lead clinicians to seek to develop further expertise in the area.

New Zealand young people reported that completing the SACS instrument provided them with the opportunity to reflect on their own drug-taking behaviour (Christie et al., 2007). This process of reflection is a key component of a successful brief intervention (Babor & Higgins-Biddle, 2001) and it follows that use of the SACS screening tool would be an excellent starting point from which to conduct a brief intervention. These results, in combination with my disenchantment with providing general AOD training, inspired the development of the SACS Brief Intervention (SACSBI), which I undertook with the support of the New Zealand Child and Adolescent Mental Health Workforce Development Centre, 'The Werry Centre'.

The SACSBI is essentially a manual that guides clinicians through 10-steps of a developmentally appropriate brief intervention. Based on best practice principles of brief interventions it incorporates the SACS screening tool to deliver targeted feedback and advice about changing harmful substance use behaviour in young people. It is adaptable to various clinical situations and settings including child and adolescent mental health services (CAMHS). The SACS, as described in the previous chapter, has excellent psychometric properties and is highly acceptable to young people and as such is an ideal candidate for incorporation into a BI process. The SACSBI manual is available on the Internet on the same website as the SACS screening tools (www.sacsinfo.com).

Brief interventions (BIs) are evidence-based AOD treatments that involve providing personalised advice and education opportunistically. They incorporate motivational interviewing techniques to encourage self-reflection and facilitate change in behaviour. An integrated approach can be taken, whereby mental health, substance use and other problems can be raised and linked. BIs are effective in reducing substance use among people with mental health problems (Baker, Kay-Lambkin, et al., 2007), as well as improving engagement with, and adherence to treatment delivered by psychiatric outpatient services (Daley, Salloum, Zuckoff et al., 1998). They can be delivered by health workers who have limited AOD training or expertise (Babor & Higgins-Biddle, 2001; Miller & Rollnick, 2002) and can be a useful starting point for ongoing longer term AOD treatment. As such, BIs provide an opportunity to engage not only the young person in future treatment but also engage mental health clinicians into providing AOD treatment. BIs are usually linked to some kind of screening process (in this case the SACS screening instrument) and can be readily incorporated into many health care treatment service models.

The evidence that BIs reduce substance use and substance related harm and increase engagement in AOD treatment (Krupski, Sears, Joesch et al., 2010) in research settings is compelling; they have a robust evidence base in adults (Bien, Miller & Tonigan, 1993; Heather, 2002; Moyer et al., 2002) and empirical support for their use in adolescents is developing (Liddle & Rowe, 2006; McCambridge & Strang, 2004; O'Leary-Tevyaw & Monti, 2004; Tait & Hulse, 2003). However, translating this effectiveness into routine practice has not been as successful (Roche & Freeman, 2004) and the focus of ongoing research in this area has turned to operationalising brief interventions in colleges (Ehrlich, Haque, Swisher-McClure et al., 2006), emergency departments (Bernstein, Topp, Shaw et al., 2009), the criminal justice system and in homeless youth (Baer, Garrett, Beadnell et al., 2007). The challenge of how to apply what has been shown to be effective in the research setting more

widely across the healthcare landscape is ongoing and obstacles and potential solutions to this have been discussed elsewhere (Babor, McRee, Kassebaum et al., 2007; Clark & Moss, 2010; Fleming, 1997).

One of the problems related to encouraging AOD interventions amongst clinicians not trained in AOD work is attitudinal factors. Stigmatising attitudes are associated with being less keen to implement interventions (Amaral-Sabadini, Saitz & Souza-Formigoni, 2010) as are perceived low competence and unsupportive working environments (Geirsson, Bendtsen & Spak, 2005; Kaner, Heather, McAvoy et al., 1999). That said, health workers working in a variety of general medical settings have demonstrated willingness to do BIs and associated work (Pulford, McCormick, Wheeler et al., 2007; Sheridan, Wheeler, Ju-Hsing Chen et al., 2008).

In this study we evaluated a training workshop that taught the SACSBI to CAMHS workers utilising the Substances and Choices Scale (SACS) screening instrument. The evaluation sought to establish the utility and acceptability of the BI training for CAMHS workers and investigate whether it led to changes in attitudes, skills and knowledge in relation to providing AOD interventions within a mental health setting.

8.2. Method

Population

This evaluation was conducted with two groups of CAMHS staff; one general and the other a Kaupapa Māori service providing holistic mental health care informed by cultural knowledge and practice (Barnes, 2000; Durie, 2004). Both services carry out comprehensive assessments and develop individualised treatment plans for children and adolescents with mental health problems.

This evaluation of a training programme was conducted as an audit or related activity (see Appendix 36) according to the National Ethics Advisory Committee guidelines for observational studies (National Ethics Advisory Committee, 2006).

Procedures

The SACSBI workshop is a one day training programme in delivering BIs to young people that was developed for the New Zealand Child and Adolescent Mental Health Workforce Development Centre 'The Werry Centre'. The workshop teaches clinicians to screen young people for AOD use using the SACS, discuss the results using a motivational approach and plan goals around minimising harm related to their substance use. The workshop was based around the SACSBI, which was designed based on best-practice recommendations for effective brief interventions (Christie, 2010). The SACSBI guides clinicians through 10-steps of a developmentally appropriate brief intervention using the SACS to deliver targeted feedback and advice about changing harmful substance use behaviour. The SACSBI is available on the internet (www.sacsinfo.com) and is adaptable to various clinical situations and settings including CAMHS.

All staff members attending the training (n=37) were invited to complete an evaluation questionnaire immediately before receiving the SACSBI training (T1), immediately after (T2) and 10 months later by email (T3). Participants were also asked to participate in a focus group immediately after the training and 12 months later.

Demographic information and participants' previous AOD work experience, training and education were collected prior to training. Participants were asked to rate statements regarding their attitudes, skills and knowledge around AOD screening and brief interventions on 10-point Likert scales (one meaning 'strongly disagree' and 10 meaning 'strongly agree') at T1, T2 and T3 using a specially developed instrument as described below. Participant ratings of the training were also collected at T2 and T3.

CAMHS staff from each of the two services were also invited to take part in semi-structured focus groups (one for each service) occurring immediately after the training and lasting 30-40 minutes. We asked participants to discuss the following topics; how AOD brief interventions could be used in their roles, perceived barriers to using the SACS screening tools or offering a brief intervention, possible improvements to the SACSBI training, and the cultural suitability of the SACSBI guide. Both focus group interviews were audio-recorded and transcribed verbatim. Participants were again invited via their CAMHS managers to participate in a focus group 12 months later.

Instrument

A questionnaire used for assessing health professionals' attitudes, skills and knowledge was adapted and piloted (with a youth AOD treatment service clinician, an AOD treatment service consumer advisor, a youth mental health service clinician and a Māori mental health service clinician) and amended accordingly to explore participants' perceptions around AOD and BIs with young people (see Appendix 37 and 38).

Part 1 of the questionnaire (administered before the training commenced) aimed to collect baseline data pre-training, including demographic information, questions about participants' professional background and their previous experience of AOD training and practice. It also asked about their current practice around assessing for AOD problems in young people and about perceived barriers and incentives to conducting screening and brief interventions in their service.

Attitudes of CAMHS workers in regard to AOD assessment and brief interventions were measured by incorporating a modified version of the Short Alcohol and Alcohol Problems Perception Questionnaire (SAAPPQ) into the general questionnaire. The SAAPPQ is a validated, 10-item rating scale designed to measure a health professional's motivation or willingness to work with drinkers ('motivation'); feelings about the adequacy of their knowledge in working in this area ('role adequacy'); self-esteem in the specific task of delivering AOD screening and brief interventions ('task specific self-esteem'); the extent to which they feel they have the right to work with problem AOD users ('role legitimacy'); and their expectations of work satisfaction with AOD clients ('work satisfaction') (Anderson & Clement, 1987; Cartwright, 1980). It is recommended for use in evaluating change in practitioner's attitudes pre- and post-training and has been modified for use in other populations before (Pulford et al., 2007; Sheridan et al., 2008). The modifications included changes in wording so that it was more appropriate to the training offered (i.e. substituting 'drinkers' for 'young people with AOD problems') and use of a 10-point rating scale rather than a 7-point scale.

Part 2, administered at T2 and T3 aimed to collect participant ratings of the training and also to measure changes in attitudes, skills and knowledge by repeating the relevant Part 1 sections. It also examined whether participants felt better equipped to deal with AOD issues in their current practice and re-examined their attitudes and perception of barriers and incentives.

Statistical analysis

Simple descriptive statistics were used to describe the demographic characteristics of the participants and report on questionnaire data. An exact test was used to compare the demographics of those participating at T1 and T3. A Wilcoxon signed-ranked test (a non-parametric test for paired measures) was used to analyse change in rating scores between T1 and T2 (n=34) and T2 and T3 (n=15). Statistical analysis was conducted using SPSS (Version 19).

Focus group transcriptions were read and re-read by the research team to gain an understanding of the key themes and analysis was informed mainly by the general inductive approach (Thomas, 2006). Common themes and differences across the two teams were sought and reported. Verbatim interview extracts are presented in italics.

8.3. Results

Participant characteristics

Thirty-seven CAMHS workers attended the SACSBI training workshop; 22 general CAMHS workers, 14 Kaupapa Māori CAMHS workers and one 'not specified'. Participants were most commonly nurses (in court liaison or community mental health positions) or social workers, but also included doctors, clinical psychologists, an occupational therapist, and other therapists. The demographic profile of the participants is shown in Table 27. There were no significant differences in the gender or age make-up of the participants from the two services attending the training.

All participants completed the T1 evaluation pre-training and 34 completed the T2 evaluation immediately after the training (91.9% of T1 participants). Although all workshop attendees were invited by email (distributed by their service managers) to participate in the evaluation questionnaire 10 months after training, only 15 participants completed the T3 evaluation (44.1% of T2 participants and 40.5% of T1 participants).

Exact tests were used to compare the demographics of the participants at T1 prior to training (n=37) with those who completed the questionnaire at T3, 10 months after training. There was no difference in gender, age, ethnic make-up, service, or professional role characteristics found between either time period (gender T1-T3 $p=0.13$; age T1-T3 $p=0.30$; ethnic make-up T1-T3 $p=0.71$; service T1-T3 $p=1.0$; profession T1-T3 $p=0.47$).

From the group of 37 workshop attendees, volunteers for post-workshop focus groups were requested. One focus group comprised six of the Kaupapa Māori service staff including court liaison nurses, managers and community mental health nurses. The second comprised eight general CAMHS staff including clinical psychologists and community mental health nurses. Workshop attendees were invited to participate in a second focus group via the service managers 12 months after training. This focus group consisted of five of the Kaupapa Māori service staff.

Table 27: CAMHS participant details pre-training (T1) and 10-month follow-up post-training (T3)

Variable		T1 (n=37)	T3 (n=15)
Gender	Male	25.7% (9/35)	40.0% (6/15)
	Female	74.3% (26/35)	60.0% (9/15)
Age	20-29	5.6% (2/36)	- (0/15)
	30-39	25.0% (9/36)	20.0% (3/15)
	40-49	47.2% (17/36)	53.3% (8/15)
	50+	22.2% (8/36)	26.7% (4/15)
Ethnicity	European/other*	60.7% (17/28)	46.6% (7/15)
	Māori	35.7% (10/28)	50.0% (4/15)
	Asian	3.6% (1/28)	- (0/15)
Service	Mainstream	61.1% (22/36)	60.0% (9/15)
	Kaupapa Māori	38.9% (14/36)	40.0% (6/15)
Role	Nurse	40% (14/35)	46.6% (7/15)
	Social Worker	22.9% (8/35)	13.3% (2/15)
	Psychologist	17.1% (6/35)	33.3% (5/15)
	Doctor	8.6% (3/35)	6.6% (1/15)
	Other**	11.4% (4/35)	- (0/15)

Sample sizes vary between variables as not all participants answered each question; *'Other' includes: African, Bulgarian, Scottish and South African/Italian; **'Other' includes: occupational therapist, family therapist and other therapist

Prior AOD work experience, training and education

Despite most participants having gained health qualifications over 10 years earlier, the majority reported little work experience of formally working in an AOD related field before attending the SACS BI training (76%). Of the 19% with previous AOD work experience, the length of time spent in AOD work ranged from three to six months, although one person reported having spent 15 years in an AOD related field. Only a small number of participants (14%) reported having undertaken any AOD related education or training since qualifying and this was largely reported as being DHB in-service training within the previous 10 years.

Prior knowledge of BIs and current practice

When asked what they knew about screening tools used for assessing AOD use prior to training (T1), more than half of the participants (51.4%) reported that they knew nothing. Likewise with regard to brief interventions, 59.5% of participants 'didn't know anything'. Those with knowledge about BIs reported awareness of the SACS instrument, motivational interviewing techniques and adult screening tools.

Participants were asked about their current practice when assessing and responding to AOD concerns in young people. The majority stated that they had asked all (51.4%) or most (35.1%) young people about their AOD use in the last six months. Participants were most likely to ask 'standard questions' (51.4%), although many (32.4%) reported just 'chatting informally'. Only 16.2% of participants had used a screening questionnaire or tool. Upon identifying a young person with perceived problematic AOD use, participants were most likely to write their concerns in the young person's notes (83.8%) and offer a referral to a specialist service. Just under a quarter said that they had offered a brief intervention (24.3%).

Attitudes to dealing with young people's problematic AOD use in their service

CAMHS staff attitudes with respect to AOD assessment and intervention were measured via a modified version of the SAAPPQ using a 10-point Likert scale to rate participant's agreement with a list of statements. Each domain score combines two subscale questions, giving a score with a possible range of 2–20. A score of 10-12 is considered a neutral response, with higher scores indicating a more positive attitude and lower scores indicative of a more negative attitude.

Table 28 shows the median scores attributed to each attitudinal domain and the total attitudinal score for the group as whole.

Overall, the median scores of SAAPPQ domains showed either improvement or no change when comparing T1 and T2 scores. Two domains, 'role adequacy' and 'work satisfaction' showed a significant improvement, as did the total attitude score (overall composite score). There was no change in total or domain attitude scores between T2 and the 10-month follow up (T3) except in the domain of 'role legitimacy', which indicated more negative attitude at T3 (T2 median score = 16 vs. T3 median score = 13; $p=0.018$).

Table 28: Change in attitudes measured by the modified SAAPPQ towards dealing with young people’s problematic AOD use between participants in both T1 and T2 and between participants in both T2 and T3 follow-up

Modified SAAPPQ domain scores	T1 (n = 34)	T2 (n = 34)	p value [†]	Modified SAAPPQ domain scores	T2 (n = 15)	T3 (n = 15)	p value [†]
Median (range)				Median (range)			
Role Adequacy**	11.5 (5-18)	15 (10-20)	<0.001*	Role Adequacy	16 (13-19)	16 (10-20)	0.693
Task-specific Self Esteem**	14.5 (6-20)	18 (4-20)	0.482	Task-specific Self Esteem	18 (4-20)	20 (13-20)	0.144
Motivation**	13 (9-20)	15.5 (11-20)	0.651	Motivation	15 (11-20)	15 (10-20)	0.422
Role Legitimacy**	16 (2-20)	15.5 (6-20)	0.891	Role Legitimacy	16 (6-19)	13 (2-19)	0.018*
Work Satisfaction**	12 (4-20)	15 (6-20)	<0.001*	Work Satisfaction	14.5 (6-20)	12 (7-20)	0.358
Overall Composite Score [^]	63.5 (44-85)	75 (53-92)	0.001*	Overall Composite Score	76.5 (58-89)	76 (59-96)	0.646

[†]Paired Wilcoxon signed-rank test; *p<0.05 indicates statistical significance; **Possible range 2-20; higher score (>12) indicative of positive attitude, lower score (<10) indicative of negative attitude; score (10-12) indicative of neutral attitude; [^]Possible range 10-100; AOD = alcohol and other drugs.

Effect of training on participants' perception of their own AOD skills

Participants reported feeling better equipped to deal with AOD issues in their current practice after receiving the training. Participants were requested to indicate their level of agreement on a scale of 1-10 (1=strongly disagree and 10=strongly agree) with 10 statements (Table 29). The analysis of change between scores at T1 and T2 indicates that this was the case with a significant increase in median scores for all 10 statements. There was no change in scores between T2 and T3 for the participants who completed the 10-month follow-up.

At completion of the training day (T2) the majority of participants believed that they had the skills and confidence to use the SACSBI in their clinical practice and had a strong intention to use the SACSBI in the future (Table 30). At the 10-month follow-up participant responses were less positive about their skills and confidence and 20% did not believe that using the SACSBI had improved their practice. When asked about how often they had used the SACSBI over the 10 months since completing the training, 60% (n=9/15) reported "only with a few clients" or "with none". However, almost all (n=14/15) agreed/ strongly agreed that the skills they had learnt were relevant, 73.3% (n=11/15) agreed/ strongly agreed that the training had equipped them well for conducting AOD screening and 66.6% (n=10/15) agreed/ strongly agreed that the training had equipped them well for carrying out a brief intervention (Table 30).

Table 29: Change in confidence towards dealing with young people’s problematic AOD use between participants in both T1 and T2 and between participants in both T2 and T3 follow-up

Skills and confidence questions	T1 (n = 34)	T2 (n = 34)	p value [†]	Skills and confidence questions	T2 (n = 15)	T3 (n = 15)	p value [†]
Median (range)				Median (range)			
I feel able to talk to YP about their AOD difficulties	7.5 (3-10)	8.5 (6-10)	0.001*	I feel able to talk to YP about their AOD difficulties	9 (8-10)	9 (6-10)	0.555
I feel able to assess YP for AOD problems	7 (1-9)	8 (3-10)	<0.001*	I feel able to assess YP for AOD problems	8 (6-10)	8 (5-10)	1.0
I feel confident when assessing AOD concerns in YP	6 (2-10)	8 (3-10)	<0.001*	I feel confident when assessing AOD concerns in YP	8 (6-10)	8 (6-10)	0.794
I know what to do if I identify AOD difficulties in YP	5.5 (2-10)	9 (3-10)	<0.001*	I know what to do if I identify AOD difficulties in YP	9 (7-10)	8 (5-10)	0.458
I know how to perform a BI	4.5 (1-9)	8 (6-10)	<0.001*	I know how to perform a BI	9 (6-10)	9 (4-10)	0.837
I feel confident discussing the harms of AOD use with YP	6 (1-10)	8 (4-10)	0.002*	I feel confident discussing the harms of AOD use with YP	8 (4-10)	8 (6-10)	0.325
If I identified AOD difficulties in a YP I would perform a BI	4 (1-8)	8 (3-10)	<0.001*	If I identified AOD difficulties in a YP I would perform a BI	8 (3-10)	9 (3-10)	1.0
I know how to use a motivational approach when working with YP	6 (2-9)	9 (4-10)	<0.001*	I know how to use a motivational approach when working with YP	9 (7-10)	8 (5-10)	0.380
I can brainstorm strategies for reducing AOD related harm with YP	6 (1-10)	8 (4-10)	<0.001*	I can brainstorm strategies for reducing AOD related harm with YP	9 (5-10)	8 (3-10)	0.384
I know how to set goals to minimise to AOD use with YP	5 (1-8)	8 (4-10)	<0.001*	I know how to set goals to minimise to AOD use with YP	8.5 (7-10)	8 (3-10)	0.284

[†]Paired Wilcoxon signed-rank test; *p<0.05 indicates statistical significance; higher score indicative of positive attitude, lower score indicative of negative attitude; YP = young people; BI = brief intervention; AOD = alcohol and other drugs.

Table 30: Participant feedback around future use of the SACS as a brief intervention in practice at T2 and T3

Using the SACS BI	Disagree %	Neutral %	Agree %	Using the SACS BI	Disagree %	Neutral %	Agree %
I feel able to use the SACSBI as part of my usual clinical assessment and practice (n = 33)	3.0	6.1	90.9	I feel able to use the SACSBI as part of my usual clinical assessment and practice (n = 15)	13.3	13.3	73.3
I feel confident using the SACSBI as part of my usual clinical assessment and practice (n = 34)	2.9	11.8	85.3	I feel confident using the SACSBI as part of my usual clinical assessment and practice (n = 15)	13.3	13.3	73.3
I believe using the SACSBI will improve my clinical assessment and practice (n = 34)	2.9	8.8	88.2	I believe using the SACSBI will improve my clinical assessment and practice (n = 15)	20.0	13.3	66.7
I intend to use the SACSBI in my clinical practice (n = 32)	3.1	6.3	90.6	I intend to use the SACSBI in my clinical practice (n = 15)	-	-	-
Using the SACSBI will be a hassle (n = 34)	94.1	5.9	0.0	Using the SACSBI will be a hassle (n = 15)	80.0	13.3	6.7

Sample sizes vary between variables as not all participants answered each question.

Incentives and barriers to conducting BIs

Participants scored their agreement with a list of statements regarding factors that might motivate them to conduct AOD screening and brief interventions in their current role. In the main, participants' scores increased immediately after the training (Table 31). In particular, participants appeared to have felt significantly more motivated at T2 by the following factors; support services being readily available for referring patients to, there being good evidence that AOD screening and BIs are effective in young people, and having available quick and easy screening questionnaires and intervention techniques. In general, for those participants who participated in the 10-month follow-up, they remained in agreement about these factors as motivators. However, the median scores reduced significantly from T2 for a number of these factors, in particular for; health and media campaigns making society more concerned about AOD use, having available quick and easy screening questionnaires and intervention techniques, and that training would help them do their job better.

Perceptions of barriers to conducting AOD screening and brief interventions revealed two main issues; participants' lack of training and lack of knowledge regarding the identification of AOD users that present without obvious symptoms of excess AOD use (Table 32). Although these two item scores showed a statistically significant decrease immediately post-training indicating they were perceived as less of a barrier following the training, lack of training continued to be the biggest perceived barrier. Encouragingly participants did not see being 'too busy' as a barrier and they accepted brief interventions as part of their role as CAMHS workers. Availability and effectiveness of screening instruments and specialist AOD treatment was not seen as a barrier to conducting BIs. There were no changes in perceptions of barriers for those participants who participated in the 10-month follow-up

Table 31: Change in participants' rating of factors motivating them to conduct AOD screening and brief interventions between T1 and T2 and between participants in T2 and T3 follow-up

Motivating Factors	T1 (n = 34)	T2 (n = 34)	p value†	Motivating Factors	T2 (n = 15)	T3 (n = 15)	p value†
Median (range)	7 (2 -10)	8 (1-10)	0.232	Median (range)	8.5 (1 -10)	6 (1-10)	0.020*
Health and media campaigns, in general, have made society more concerned about AOD use				Health and media campaigns, in general, have made society more concerned about AOD use			
Clients are requesting health advice about AOD use	5 (1-10)	5 (1-9)	0.119	Clients are requesting health advice about AOD use	5 (1-9)	5 (1-9)	0.260
Support services are readily available for referring clients to	5 (1-10)	6 (2-10)	0.001*	Support services are readily available for referring clients to	6.5 (4-10)	5 (1-10)	0.150
There is good evidence that AOD screening and brief interventions are effective with young people	5 (2-9)	8 (5-10)	<0.001*	There is good evidence that AOD screening and brief interventions are effective with young people	8 (5-10)	7 (4-10)	0.116
I have quick and easy screening questionnaires and intervention techniques available to me	5 (1-10)	8 (2-10)	<0.001*	I have quick and easy screening questionnaires and intervention techniques available to me	9 (7-10)	8 (1-10)	0.042*
Training in AOD screening and brief interventions will help me do my job better	10 (5-10)	9 (1-10)	0.005*	Training in AOD screening and brief interventions will help me do my job better	9 (7-10)	8 (1-10)	0.049*
Providing AOD screening and brief interventions will make a difference to the young people I care for	9 (3-10)	9 (1-10)	0.072	Providing AOD screening and brief interventions will make a difference to the young people I care for	9 (7-10)	8 (1-10)	0.084

† Paired Wilcoxon signed-rank test; *p<0.05 indicates statistical significance; higher score indicative of agreement, lower score indicative of disagreement; YP = young people; AOD = alcohol and other drugs.

Table 32: Change in participants' rating of perceived barriers to conducting AOD screening and brief interventions between T1 and T2 and between participants in T2 and T3 follow-up

Perceived Barriers	T1 (n = 34)	T2 (n = 34)	p value†	Perceived Barriers	T2 (n = 15)	T3 (n = 15)	p value†
Median (range)	8 (1-10)	4 (1-10)	0.013*	Median (range)	2 (1-10)	2 (1-8)	0.272
I have not been trained to help YP reduce their AOD use				I have not been trained to help YP reduce their AOD use			
I am too busy dealing with the problems that YP present with	5 (1-10)	3 (1-10)	0.292	I am too busy dealing with the problems that YP present with	2.5 (1-10)	2 (1-7)	0.114
There are no appropriate self-help or educational pamphlets available to me	4.5 (1-10)	3 (1-10)	0.472	There are no appropriate self-help or educational pamphlets available to me	3 (1-10)	2 (1-6)	0.117
I do not have access to a suitable AOD screening tool	4 (1-10)	2 (1-8)	0.131	I do not have access to a suitable AOD screening tool	2 (1-7)	1 (1-6)	0.181
I do not know how to identify AOD users who have no obvious symptoms of excess consumption	5 (1-10)	3 (1-9)	0.005*	I do not know how to identify AOD users who have no obvious symptoms of excess consumption	2 (1-8)	2 (1-10)	0.393
I believe that screening and brief interventions are not the sorts of things I should be doing in my role as a Mental Health professional	2 (1-9)	2 (1-10)	0.490	I believe that screening and brief interventions are not the sorts of things I should be doing in my role as a Mental Health professional	2 (1-10)	1 (1-6)	0.566
I do not know where to refer YP to	4 (1-10)	2 (1-8)	0.091	I do not know where to refer YP to	2 (1-8)	1 (1-9)	0.121
I believe that AOD services in the community are not effective	3.5 (1-10)	3 (1-8)	0.425	I believe that AOD services in the community are not effective	2 (1-8)	2 (1-9)	0.765

† Paired Wilcoxon signed-rank test; *p<0.05 indicates statistical significance; higher score indicative of agreement, lower score indicative of disagreement; YP = young people; AOD = alcohol and other drugs.

Focus Groups

Many participants in both focus groups felt that one of the main impacts of the SACSBI training was to confirm that, in the main, their current approaches to dealing with AOD use by young people were valid and appropriate. There was wide agreement across both groups that the training had provided a structure or framework that would help them address AOD use in young people in a more systematic way. The following interview excerpt shows how one CAMHS focus group participant felt that this could bring value to their team:

“It provides us with a really useful framework for ... those who have less confidence. But also, I think, as a team, if we go back with that common framework and that common language, that’s a very good place for that recognition of the confidence in the work that is already happening and a platform to continue developing.” (Participant 7)

Both groups felt that the SACSBI 10-step system provided opportunities for focussed engagement with young people and their families around AOD use. Some participants in the Hauora Māori service focus group had previously been using the SACS as a screening tool and, in doing so, had naturally been using the tool to perform brief interventions. For them, the training provided a formal label that they could use to describe what they were instinctively doing:

“We didn’t know that that’s what we were doing ...we didn’t know that’s a brief intervention!” (Participant 3)

Participants in the Hauora group felt that they would be able to use the SACSBI to foster engagement with young people and their families by making discussions around AOD use more *“goal specific”* (Participant 4). This sentiment was echoed by participants in the CAMHS group, who felt that use of the tool *“creates a platform”* (Participant 12) for interactions with young people regarding their AOD use.

The system was perceived to be flexible enough to be adapted for use in their specific situations, including for use with Māori youth. In addition, the content of the SACS as a tool was felt to be accessible for Māori youth, however there was concern that young people whose first language was Te Reo may not enjoy the same level of accessibility. A further concern related to the practice of initial assessments usually being conducted in a whanau (family) environment, where: *“a young person might not want, or acknowledge, or say that they are using alcohol and drugs”* (Participant 5).

Across both groups, discussions around the barriers to implementing the SACSBI into routine practice related to the contexts in which young people were being seen and assessed. For example, where young people were presenting with acute mental health needs and/ or in a state of crisis, it was anticipated that screening for AOD use and performing brief interventions would have a low priority.

Barriers to routine implementation were anticipated when working with young people in a court liaison setting. Concerns around lack of confidentiality were raised, potentially preventing a young person from answering honestly about their AOD use: *“So, what you find with those who are hesitant... is that they [think that] they are going to get into trouble.”* (Participant 3) and another participant talked about physical barriers such as *“bars and Perspex glass”* (Participant 1). A desire for on-going support from AOD workers with the relevant expertise to provide advice and guidance was also expressed.

One year after completing the training five Kaupapa Māori service staff working in a court liaison and community mental health setting volunteered to participate in a follow-up focus group. They reported using the SACS in their practice primarily as a screening tool, administered in conjunction with the mental health screening questionnaire:

“... we’ve incorporated it into our feedback so the Youth Court Judges are now very interested in the SACS score...and they often ask that the young person’s plan, that it be included in that plan as the AOD input.” (Participant 1).

In turn they had seen the Youth Court make bail conditions that included mandated AOD treatment because of their recommendations, which could include referral and service contact information:

“... that’s where the SACS has become very, very helpful... because you can give them some pretty concrete recommendations... That carries more chance it will be successful.” (Participant 1)

In the community mental health setting, participants reported that the assessment team usually did the SACS, sometimes involving an AOD clinician if substance-related problems was a strong feature of the referral, but otherwise by non-AOD clinicians.

Barriers to implementation identified by the participants reflected comments made at the end of training including; time constraints (especially in the court setting), access for those speaking Te Reo (Maori) as their first language, accessibility for young people to complete the SACS in private or confidentially (often away from their family), and issues about

whether the training had provided adequate skills on its own to enable all participants to utilise the training in practice. The participants said that they would have liked feedback from the training team about how implementation was going, what other services were doing to support their staff and also reported that a follow-up workshop would have supported them in practice:

“One training was good but I guess when I look back...were we well supported, no, there was probably follow-up and more training that could and should have been done that would have made administering it [SACSBI] a lot more efficient.” (Participant 2)

8.4. Discussion

Overall the study showed that the SACSBI training was well received and successful in increasing the perceived usefulness of AOD screening and brief interventions in day to day CAMHS work. In addition, CAMHS workers (from both general and Hauora Māori services) reported an increase in their confidence and perceived skills and abilities around performing screening and brief interventions and this appeared to persist when re-examined in a proportion of the participants 10 months later.

Screening, brief interventions and referral to treatment (SBIRT) in primary care, hospital and college settings appear to be a focus for the research community currently, however there are few studies in adolescent mental health services. This is despite the fact that 40% of adolescents attending mental health services will have a coexisting alcohol and other drug (AOD) disorder (Baker, Lubman, et al., 2007; Christie et al., 2010). The dearth of research into BIs in this area possibly reflects the fact that there is an expectation that mental health services should provide integrated AOD treatment (Baker, Kay-Lambkin, et al., 2007) rather than simply BIs and indeed a recent randomised controlled trial examining SBIRT in adolescent psychiatric outpatients recommended longer interventions (Goti, Diaz, Serrano et al., 2010).

Unfortunately the reality is that mental health services have a poor track record of identifying and managing AOD problems (King et al., 2000). Indeed, the reasons why mental health services perform so poorly in this area has been examined extensively (Kramer et al., 2003) and mental health professionals' reluctance to provide AOD assessment and treatment for young people is likely to be largely because they lack familiarity with this kind of work, rather than the required skills or knowledge (Skinner et al., 2009). Our sample of

CAMHS workers reported very poor awareness and knowledge of BIs prior to training however post-training feedback, in particular from the focus groups, was encouraging in that workers reported that the SACSBI workshop provided them with a framework to conduct AOD treatment and increased confidence and legitimacy to conduct BIs.

Furthermore the attitudinal data from our study indicated that, overall, participants improved in all five SAAPPQ domains after receiving the SACSBI training but significant changes were noted in the domains of 'role adequacy', 'work satisfaction' and in the 'overall composite score'. This improvement suggests that the training enabled most participants to feel able and comfortable in providing AOD screening and brief interventions. CAMHS workers' attitudes towards providing AOD screening and brief interventions were largely positive and the improvement in the 'work satisfaction' domain, suggested that CAMHS workers believed this would be a rewarding activity in their varying roles.

Contrasting this, the results of a similar study in the New Zealand medical ward staff, found negative attitudes as measured by the work satisfaction domain of the SAAPPQ (Pulford et al., 2007). However this may be more a reflection of the differences in the samples (general health vs. mental health) as our results are similar to those reported in a randomised controlled trial testing attitudes before and after a 4 day training for clinicians working with comorbidity (Munro, Watson & McFayden, 2007). This study found the training improved attitudes and knowledge immediately following the programme and at 6 month follow up. Another study reporting on training and supervision given to assertive outreach mental health staff in implementation of integrated treatment to people with comorbidity found positive lasting changes in confidence and skills (Graham, 2004).

The SACS and SACSBI training was considered to be culturally acceptable within a CAMHS setting. One of the features of the SACSBI is that it is a flexible intervention and adapting it to meet needs of specific client groups is not discouraged. Participants in the Kaupapa Māori focus group considered the SACSBI culturally acceptable and flexible enough to accommodate the cultural needs of most Māori young people. When considering the overall utility of BIs, acceptability to clinicians is key, as one of the main challenges about this kind of work related to getting services to conduct them routinely. That the SACSBI was felt to be relevant and applicable to work with Maori young people is encouraging in this respect.

Limitations

The fact that the follow up questionnaire was conducted immediately following the training means that the positive change seen in the T2 responses may be exaggerated, participants potentially getting caught up in the 'infectious hype' generated during the training day. A less enthusiastic (and more realistic) response in the weeks following the training might be expected once enough time to forget original responses and reflect on what the training would mean in real-world practice has elapsed.

Despite this, the results from our limited sample completing the T3 10 month follow up questionnaire suggest that, on the whole, the attitude change demonstrated immediately after completing training persisted over the 10 month period. Unfortunately, the sample was incomplete and possibly affected by selection bias (related to those more positive about the training choosing to participate) and it is difficult to draw any firm conclusions because of this. The only exception to the persisting positivity seen at T3 was in the 'role legitimacy' domain, which purportedly reflects 'the extent to which practitioners feel they have the right to work with problem AOD users'. That participants felt increasingly less legitimate in the role of providing AOD interventions as time elapsed may be related to proximity to the training or reflect a lack of ongoing support around conducting AOD interventions.

This general positivity towards the SACSBI needs to be balanced by the finding that participants still felt that there were a number of barriers to the routine implementation of AOD screening and BIs. Furthermore, although the SACSBI workshop was successful in enhancing clinician's confidence and perceived skill, ongoing training and support is likely to be required to maintain these changes and this was explicitly requested in a focus group.

Other limitations include the small sample size and the fact that participants misunderstood some questions, evidenced by the number of invalid or missing questions. This was especially of concern for some questions that were reverse scored. It is also worth noting that while measuring the participant attitudes and beliefs can be an indication of future behaviour, it is by no means a measurement of their actual behaviour (which may differ markedly from their intentions). This study provides some indication of how the knowledge and skills gained from the training is retained 10 months into the future, but has not effectively evaluated the actual use and application of the SACSBI in routine clinical practice.

8.5. Conclusions

The provision of integrated care by CAMHS workers is recommended as the best way to address co-existing substance use disorder in CAMHS clients. Training in AOD brief intervention using the SACSBI is one way to initiate CAMHS workers into this important part of their role. This study showed that SACSBI training was well received by general and cultural CAMHS workers. Participants responded positively to the use of the SACS instrument and the delivery of brief interventions with young people. The main utility of the training appeared to be in providing a framework within which trainees could use existing skills and it is hoped that this will enhance their practice. However to effectively support uptake of newly acquired skills and knowledge, and integrate learning into practice in the longer-term, ongoing support and mentoring by AOD workers is recommended.

9. Discussion and future directions

In this thesis I have incorporated a range of research projects that standing alone, and when considered together, have the objective of improving the identification and treatment of AOD problems in young people attending youth addiction, mental health and health services. Firstly I described the prevalence of AOD and mental health disorder in young people attending various types of services via a descriptive review, and more specifically the prevalence of mental health disorder in young people with attending addiction services via a systematic review. Following this, a comparison of the self-reported morbidity and problems in young people attending addiction and mental health services was presented. The four stages of the successful development and testing of the Substances and Choices Scale or the SACS are detailed in the middle chapters of this thesis. The last project was a small study using the SACS screening tool as the starting point of a brief intervention and examining utility of this intervention for CAMHS clinicians and whether it led to attitude change with regard to providing integrated AOD interventions.

This series of projects and the order that they are presented here reflects well the journey that I have undertaken as a developing clinician and researcher through a clinical landscape that has changed gradually over the last ten years. The scope of the research and the implications of it develop from an initial focus on morbidity in a specialised service, to a broader treatment scope, the provision of brief AOD interventions, which can be utilised in a wide range of services.

As a young consultant starting out in a novel service, my initial priorities were to establish some credibility and support for our outpatient addiction service, which was unique in a mental health landscape dominated by traditional CAMHS providers. Part of this involved making explicit the extent of mental health comorbidity in young people who presented to addiction services as reported in the literature. The next step, directly comparing the comorbidity reported by the young people in my service to that of a CAMHS, was key. I was able to show that, if anything, those attending for addiction treatment had greater complexity of problems.

From this point my attention turned from the theoretical to the practical, from describing the extent of the problems to facilitating their identification. My own developing confidence in the importance of promoting effective AOD treatment for young people attending

services in New Zealand was as much responsible for this change of direction as was the inadequacy of established AOD instruments.

The SACS screening and outcome measurement instrument, the final outcome of the extensive project described in the middle chapters of this thesis, is able to assist mental health and health services to better identify the high levels of AOD morbidity in their clients and is helping AOD services like my own to measure progress better. Recommendations for its use include administering it at initial assessment to screen for difficulties, intermittently during treatment to measure progress, and at discharge to assess outcome of treatment. The fact that it is designed in a similar structure and format to the SDQ, which has a proven track record in services and is acceptable to young people and their families, means that using the two instruments together is recommended. Together, the combination of the SDQ and SACS should enhance screening and measurement of functioning across a spectrum of psychosocial areas including emotional symptoms, conduct problems, prosocial behaviour, peer relations, attention/hyperactivity symptoms, and symptoms and harm related to substance use.

The next step following the development of the SACS was a move from the area of assessment and screening into the treatment arena, examining how the SACS instrument might be used to promote basic AOD treatment. That screening is an established part of conducting evidenced-based brief interventions made this a natural progression in terms of my research focus.

In the remainder of this chapter these various strands of research are drawn together and their implications and limitations discussed, particularly in reference to the current treatment and research landscape. Future directions, in particular with reference to ongoing development of interventions modalities based around the SACS, are explored towards the end.

9.1. Comorbidity and service delivery

The issue of how best to address co-existing disorder remains as important in this decade as in the last. Psychiatric service systems unfortunately continue to be less likely to respond to co-occurring disorders than substance services (Timko, Dixon & Moos, 2005) and increasing access to evidence based treatment for adolescents, and developing new systems of integrated care (Sterling, Weisner, Hinman et al., 2010), remain a focus in the literature.

The information from the literature review herein regarding comorbidity in different types of services, and the accompanying project described in Chapter 3, may help to raise awareness of the coexisting AOD disorder in young people attending mental health services at the time but more work is needed. A recent review of clinicians' attitudes to comorbidity revealed consensus from mental health workers that most current service systems have limited effectiveness in terms of meeting the needs of people with comorbid problems (Adams 2008). Furthermore there appears to be somewhat mixed attitudes and perceptions about the delivery of integrated care.

Getting CAMHS services to recognise and address the AOD problems in their young people remains a key area of development for services. This can be assisted to some extent via the use of systematic and validated assessment instruments (Turner et al., 2004) and this is acknowledged in the recent New Zealand government project, the 'co-existing problems' or CEP initiative (Todd, 2010), aimed at enhancing integrated care across the mental health and addiction sector. Indeed guidance at the service planning and funding level is offered as a part of this initiative in recognition of the fact that an effective response to the problem of coexisting disorder requires change across all levels of an organization (Ministry of Health, 2010).

The results of my comparative study made explicit, in the New Zealand context, the extent of morbidity in young people presenting to AOD services. Showing that morbidity (as measured by self-reported problems) was at least equivalent to that in CAMHS was important as funding was skewed in favour of mental health services at the time (Mental Health Commission, 2002). This relative imbalance in funding remains and there remains significant scope for development of the youth addiction sector (Minister of Health, 2005).

That said, recent governmental initiatives do appear to be addressing this imbalance more actively, albeit via the Ministry of Justice (rather than via health funding) and this, in a small part, is related to the leadership that my service and I have provided in this area of service delivery over the years as evidenced by the follow excerpt from a recent government new funding announcement: *"The Waitemata Community Alcohol and Drug Service (CADS) for the metro-Auckland region has developed a model for youth AOD services that is separate from adult AOD services and incorporates many best practice elements. It ... has developed strong working relationships with Youth Justice North (for youth offenders) and ... is readily accessible for parents, carers, other youth, or anyone in contact with someone who is affected by AOD issues"* (Ministry of Justice, 2011).

Encouragingly, the scope of initiatives to address comorbidity is broadening as other sectors of the health system acknowledge the need to provide more holistic care to young people. Young people have always found accessing health care difficult (Schweer, 2009) and screening and responding to AOD problems in an opportunistic way, whatever the type of service they present to, is recognised as increasingly important across the healthcare sector. For example, there are concerns that paediatricians are underestimating substance use disorders in their patients, are less likely to take alcohol and cannabis use seriously than harder drugs (even though these are the most problematic) and find it more difficult to talk about substance use than other mental health problems such as depression or sexual practices (Sterling, Kohn & Lu, 2004).

Other reasons that good comorbidity information is important include its role in helping to set services' agendas with regard to what interventions they will provide and how they will structure their treatment programs. One real world example from my youth AOD service of how this information is used includes our increased efforts to access and engage young people in alternative education and youth justice sector, in acknowledgment of the high rates of disruptive behaviour disorder that young people with addiction have. Instituting specialised treatment models is another way that services might respond to the challenge of coexisting disorder in their clients. A service wanting to address conduct disorder in their clients for example might look at providing or 'Systems of care' (Nissen, Hunt, Bullman et al., 2004) or 'Multisystemic' therapies (Henggeler, Clingempeel, Brondino et al., 2002).

At the clinician-client level comorbidity research allows targeted training of clinicians and effective treatment planning. For example, as shown in the literature review in Chapter 2, over half of the males referred to an outpatient AOD service are likely to have some kind of antisocial behaviour. An effective AOD worker will need to be aware of this and skilled in meeting the challenges that this particular client group provides. Likewise females will be at high risk of having comorbid mood disorder and training of AOD workers should ideally incorporate teaching of specific interventions such as cognitive behaviour therapy to address this significant comorbidity (Baker, Bucci, Kay-Lambkin et al., 2007).

Recent and future directions in comorbidity research

More recently, research has been able to demonstrate better the implications of comorbidity and it is increasingly clear that having coexisting AOD and mental health

disorder is likely to indicate a severe course and poorer outcome in the general population (Merikangas & Kalaydjian, 2007). This remains the case in people who participated in treatment as adolescents, their rates of substance dependence, incarceration and treatment episodes as adults being associated with the intensity of use and severity of problems at the time they first presented (Anderson, Ramo, Cummins et al., 2009). Another study has shown that relapse to substance use following discharge from treatment appears to be more rapid and frequent in young people with externalising disorder than those with internalising disorder (Tomlinson, Brown & Abrantes, 2004).

There has also been increasing focus in the literature on establishing more detail about relationships that have been previously demonstrated or suspected. As researched cohorts grow into their adult years, firmer conclusions about disorders that are difficult to identify in adolescents can be drawn. For example, a study spanning 30 years has been able to show that all Cluster B personality disorders appear to be independent risk factors for the development of SUD (Cohen, Chen, Crawford et al., 2007). As well, investigations into the temporal sequencing of conditions are improving the knowledge base around coexisting disorder. For example, one study has shown that the effect of comorbid conduct disorder on the relationship between early initiation of substance use and later substance use disorder is additive but only prior to age 16 and that anxiety disorder increases the risk of SUD but only after age 16 (Sung, Erlanli, Angold et al., 2004). Similarly another study looking at anxiety disorders and alcohol use disorders demonstrated that whereas generalised anxiety disorder and panic disorder often follow the development of alcohol dependence, specific and social phobia are more likely to precede it (Falk, Yi & Hilton, 2008).

Recent comorbidity research in adolescents includes further description of sex differences; for example, girls are more likely to underestimate their subjective level of drunkenness (Mallett, Turrisi, Larimer et al., 2009) than boys do. As well, frequent alcohol intoxications, although associated with ADHD and conduct disorder in both girls and boys, are seen more often in young women in association with anxiety and depression (Strandheim, Holmen, Coombes et al., 2009). This kind of information has implications for screening in AOD and mental health services as well as in settings such as emergency departments.

Other research is seeking to better explain well-established associations. The 'Teen Health' study (Roberts, Roberts & Xing, 2007) has examined patterns of comorbidity in terms of *specific substances* of abuse, finding highly significant odds of alcohol disorder being comorbid with mood disorder, and both alcohol and cannabis disorder being significantly associated with disruptive behaviour disorder. This study also found greater odds of

psychiatric comorbidity in young people fulfilling criteria for substance dependence than for those with substance abuse. Similarly, higher rates of mental disorder has been shown in heavier adolescent alcohol users compared to those who may still have alcohol use disorder but with less heavy intake of alcohol (Fidalgo, da Silveira & da Silveira, 2008).

Limitations of comorbidity research

One of the key problems with comorbidity research is related to the limitations of, not just the classification system that we use to describe comorbidity (ICD and DSM) but the means to arrive at these classifications, the structured interview instruments. My research has both supported and challenged some of these related issues. That the comparative research in Chapter 3 was conducted using a self-report instrument but still found very similar rates of coexisting disorder as studies utilising 'gold standard' measurements suggests that although we may have imperfect and varying methods of measuring mental health 'problems' in populations, these methods are useful, at least in terms of their effectiveness in identifying morbidity reliably on the more severe end of the spectrum.

Related to this issue of the validity of psychiatric classification systems are the findings from the psychometric testing stage of the SACS study. Specifically, factor analysis of the participants' responses to the SACS items did not demonstrate evidence for the concepts of abuse and dependence, rather it confirmed findings from the literature that substance use disorder is better described using a continuum. The upcoming edition of the DSM acknowledges this somewhat radical change in thinking around substance disorder, proposing to remove the previous bi-dimensional framework of 'substance abuse' and 'substance dependence' and replacing it with just one classification, 'substance use disorder' (American Psychiatric Association, 2010)

One of the aims of describing and classifying disorder and co-existing disorder more accurately is related to the expectation that, in doing this, we will get closer to finding more specific and effective treatments. Unfortunately the limitations of this aspiration are increasingly apparent as we discover that many of our mental health treatments (for example selective serotonin reuptake inhibitors (SSRI's) and cognitive behavioural therapy (CBT)) tend to have effectiveness across numerous different disorders and increasing specificity about diagnostic categories is open for abuse (in terms of pharmaceutical companies marketing products for increasingly questionable indications).

Furthermore the challenge of providing increasingly specialised treatments in an already under resourced area of health service delivery is one that developing economies (and developed economies in the midst of recession) will find increasingly challenging. An example of this challenge is the issue of providing of integrated AOD care in CAMHS. Many in the sector would argue that they are stretched as it is doing core business and do not the time or resource to address coexisting disorder. Indeed some of the feedback from CAMHS clinicians that participated in the attitudes research detailed in chapter eight supports this.

I believe my work goes some way to addressing this challenge, at least in CAMHS. That the SACS and the SACSBI are free, readily accessible and simple to use, means that services can enhance provision of integrated care for minimal cost, without requiring extensive training and specialisation. My work, as detailed in this thesis, provides a starting point for services that are wanting to provide better integrated care and although the actual effectiveness of the specific SACSBI approach still needs further study, the qualities of the SACS as a screening instrument, supported by the extensive literature on the benefits of brief interventions in general, suggest that promotion of the SACSBI is a worthwhile endeavour. That said, future research utilising the SACSBI is needed to demonstrate whether or not it leads to actual change or better outcomes for young people.

9.2. Engagement and access to services

People with mental health and addiction concerns have varied means of help-seeking and difficulty accessing services (Saunders, Resnick et al. 1994) and only a small proportion of people with substance-related problems actually attend for treatment (Teesson, Baillie, Lynskey et al., 2006). Those with drug disorders fare worst than those with alcohol problems and very seldom receive treatment (Compton, Thomas, Stinson et al., 2007). In general, people are less likely to seek help for addiction problems relative to mood disorders and most anxiety disorders (Mojtabai, Olfson & Mechanic, 2002; Oakley-Browne, 1989; Oakley-Browne, Wells & McGee, 2006) and people suffering from coexisting disorder are less likely to access or receive treatment than those with SUD or mental health disorder alone (Urbanoski, Cairney, Bassani et al., 2008).

This is just as true in young people (Reavley, Cvetkovski, Jorm et al., 2010) and one of the key challenges to providers of youth services is simply getting young people to attend (Wu, Hoven, Tiet et al., 2002). Mental health and addiction services that are designed to provide

easy access and actively engage young people are essential in view of the fact youth are generally ambivalent about the need for AOD treatment. Indeed those young people with most need are often the least likely to access help; in a birth cohort of 25 year olds from the Christchurch Health and Development Study (CHDS), only 7% of those with identified alcohol use disorder had sought treatment for these problems in the last 4 years (Wells, Horwood, et al., 2007). The main reasons the young people had not sought help was because they believed they 'did not need help' and 'could handle it' themselves. Designing integrated youth services that are equipped to provide better access and actively engage young people is promoted as one way to address this (McGorry, 2007; Swanton, Collin, Burns et al., 2007).

Although it is well recognised that youth mental health and AOD treatment services need to be designed with the specific developmental needs of adolescents in mind (Deas et al., 2000; Winters, 1999b), actual implementation of recommendations is slow. More community-based adolescent AOD treatment programs, similar to that in which I work, are recommended (Britton, 2009; Rounds-Bryant, 1999) and this makes sense, as evidence suggests that outpatient services produce similar outcomes but are more cost-effective than residential programs (Morral et al., 2006).

Many features have been identified as essential to improving effectiveness of youth AOD services and one key area is how well they engage and retain youth (Brannigan, Schackman, Falco et al., 2004; Mark et al., 2006). Young people are more likely to engage with a service if it is interesting, responsive and confidential, respectful, trustworthy, and staffed by caring, committed and optimistic professionals (Duroy, Schmidt & Perry, 2003). The service environment is almost as important as the quality of interventions available, thus services need to be attractive and accessible to young people (Schroder et al., 2009). Factors related to engaging and retaining young people in treatment include service flexibility and responsiveness, and development of a good therapeutic alliance and family involvement in treatment (Britton, 2009). In addition Britton identifies realistic goal setting with young people as important, as is offering practical support and semi-formal contact (case management-like activities), provision of aftercare, and assistance when transitioning between services. Regular program evaluations and monitoring of treatment outcomes are required so that services can adapt to changes in their communities and evolve with the advent of new treatments. (National Treatment Agency for Substance Misuse, 2005).

The outpatient addiction service in which I work and where the comparative research presented in Chapter 3 was carried out had an engagement-focused philosophy. This included streamlined and youth friendly referral systems that minimised barriers to access.

Practical examples of this philosophy include the fact that young people could self-refer and referrals for a wide range of AOD concerns were automatically accepted, regardless of perceived severity or acuity. This differed from mental health service delivery in the area at the time, which generally only accepted referrals from GP's and community agencies (rather than accepting them directly from families) and triaged referrals on basis of perceived acuity and/ or complexity. One might anticipate that the policy of open access to the addiction service would result in a cohort of young people with less severe morbidity than those attending the CAMHS with gate-keeping mechanisms designed to keep the number of new referrals at a manageable level. That this was not the case, as demonstrated by our finding of similar morbidity in the two compared groups, perhaps reflects the Christchurch Health and Development Study observation that young people with SUD seldom present to services because they perceive they can handle addiction problems themselves and those that do, present late (Wells, Horwood, et al., 2007).

In recent years there has been an acknowledgement of the difficulties that families can have trying to access CAMHS and that triage systems based mainly on information from referrals do not do their job well. In the CAMHS service where the research was conducted, and in other parts of New Zealand, the Choice and Partnership Approach (CAPA) has since been implemented in an effort to provide more timely and equitable access for young people attending mental health services (Robotham & James, 2009).

9.3. The SACS and screening in New Zealand young people

As discussed previously, one way to enhance the recognition of coexisting disorder is via the use of screening instruments and there is little argument about the importance of this in a wide range of health services (Schweer, 2009; Winters, 1999a). The successful implementation of a screening program in a service will, to a large extent, hinge on the acceptability (to young people and their clinicians) of the screening instrument and processes used (Clark, Gordon, Ettaro et al., 2010; Fleming, 1997). The SACS project, which to some extent was conceived out of frustration from using the DUSI-R instrument, highlighted to me the importance that acceptability and access play in effective screening practice. Mental health clinicians specifically identify a lack of appropriate adolescent AOD resource materials as a reason for inadequacy of response to 'dual diagnosis' (Kavanagh, 2000) and my work has hopefully contributed to this challenge by designing an accessible, effective and acceptable AOD instrument.

A practical screening tool needs to differentiate substance 'use' from more significant problems such as 'abuse or dependence' because these different stages of problems will require qualitatively different types and intensities of interventions (McLellan & Myers, 2004). For a young person who scores minimally on the SACS, a CAMHS worker will feel confident that conducting a brief intervention, or providing psychoeducation will be an adequate level of input for that time whereas a young person with high scores will require more intensive integrated treatment and consultation with a dual diagnosis or AOD team. In general, health clinicians' clinical impressions of an adolescents' alcohol and drug involvement underestimate actual morbidity. If a mental health and health worker assesses a young person as using substances, there is a high likelihood that unidentified problems or disorder exists (Wilson et al., 2004) and this is one reason that use of effective screening tools is recommended.

Research is further describing the importance of identifying 'subdiagnostic AOD problems' in populations who may not have the severity of disorder seen in mental health services. This is important as young people who may not meet diagnostic threshold for disorder (diagnostic orphans) often still experience significant morbidity (Deas, 2006). This is particularly true for coexisting problems; for example, a young person who has symptoms (but not diagnosis) of both SUD and mood disorder (Shrier, Harris, Kurland et al., 2003). That the SACS provides a relatively wide range of scores from only ten items means that it is likely to be of benefit in identifying these 'subthreshold' cases.

Whether or not the SACS has been successful in smoothing the way for mental health services to implement routine screening is yet to be formally established however anecdotally I am aware of a wide range of services using the SACS and requests for information and training about the SACS continue to come to me from around the country. The positive feedback described in my attitudes study (Chapter 8 is representative of the kind of general feedback received from those services that are using the SACS. Use of the SACS has been promoted in New Zealand primary care settings (Moriarty, Stubbe & Bradford, 2009) and a recent evaluation of the use of the SACS in a Youth forensic service was presented at an Australasian conference (Singh & Fortune, 2011).

On a larger scale the Ministry of Social Development's Youth Justice service has incorporated the SACS into their suite of screening instruments as a part of 'Fresh Start' (Youth Justice; Child Youth and Family, 2009). A goal of this government initiative is to address drivers of crime and specifically, to get more young people into drug and alcohol treatment. Now all young people going through Youth Justice services are screened using the SACS and scores

from this are used, in part, as the basis for referral to AOD services. Availability of the SACS has helped these agencies to move towards better practice, as screening for mental health and addiction problems is essential in services dealing with juvenile offenders (American Academy of Child and Adolescent Psychiatry, 2005; Young, Dembo & Henderson, 2007).

Limitations of the SACS as a screening instrument in mental health and health services include those that are a feature of all self-report instruments. These factors, such as 'demand characteristics', which refers to the tendency of respondents to alter responses to appear socially favourable or otherwise, and researcher (or clinician) bias, related to the impact of the person who is administering the instrument on the participant's responses, may be arguably more significant when testing in an area such as adolescent substance abuse, about which young people may be less honest (Richter & Johnson, 2001). However, the advantages of self-report instruments, which include low cost, simplicity of administration and quantification, and their ethical qualities (related to the transparency of the items and the fact that respondents' can miss items if they are uncomfortable with) outweigh these limitations (Maisto, McKay & Connors, 1990).

My clinical experience, from training a wide range of health professionals in AOD screening, is that those who use the SACS with young people are mostly aware of the fact that the instrument is only of value if respondents answer it honestly. Establishing a good therapeutic relationship (Britton, 2009) and discussing confidentiality (Deas et al., 2000) is the key to overcoming some of these limitations and instructions for using the SACS are explicit that it should be used on a one to one basis by professionals who have some kind of therapeutic relationship with the young person completing the instrument (Christie, 2006).

9.4. The SACS, outcome measurement and brief interventions

In addition to the potential value of the SACS as a screening instrument in non-AOD services, it is also of value in youth services for which AOD treatment is core business (and screening is less important). At the time the research was conducted, my youth AOD service did not require a screening instrument as such. However we did need to measure progress in its young people and also outcome from a wider service perspective. The SACS project was successful in that it produced an AOD instrument that was able to meet both these requirements.

At the time we embarked on the SACS project we recommended that the SACS be used in conjunction with the SDQ as part of the suite of outcome measurement instruments to be rolled out in the nationwide MHSMART project. Information related to the history and development of the MHSMART project, which was conceived in 2005 in an attempt to introduce an outcomes culture into New Zealand's mental health services, is detailed on the Internet (Te Pou, 2009). Unfortunately, self-rated outcome measures were eventually not promoted because of a number of factors including frequent change of personnel in the organisation driving the MHSMART initiative, difficulties that the Ministry of Health had securing rights to use the SDQ (which impacted on the convenience of using the SACS) and a decision to concentrate on clinician-rated instruments instead of client-rated measurements.

This loss of emphasis on self-rated outcome measures perhaps reflects the dominance of mental health paradigms across the field, despite the fact that increasing consumer involvement in running of mental health services has been a constant theme in NZ and abroad over the last decade (Gordon et al., 2004; Ministry of Health, 1996). An addiction-centric outcome measurement system would most likely have self-rated instruments at its nucleus, as the history of addiction treatment is one of stressing self-responsibility and promoting self-efficacy as the key agent of change (Baer, Beadnell, Garrett et al., 2008; Miller & Rollnick, 2002).

With comorbidity in general having such a detrimental impact on the progress of individuals in both psychiatric and AOD treatment (Baker, Lubman, et al., 2007; Grella et al., 2001; Rowe et al., 2004), having simple and effective means to measure outcome is an essential part of meeting this challenge. As involving young people in the process of measuring and recording their progress is a key part of most kinds of effective mental health and addiction treatment (Bukstein et al., 2005; Swanton et al., 2007), using consumer-rated instruments such as the SACS and SDQ is a logical way for this essential treatment principle to be used to wider service advantage.

Although the MHSMART initiative did not eventuate in wider use of the SACS, a number of other initiatives have embraced the SACS in recent years. The New Zealand addiction workforce development organization, Matua Raki and the child and adolescent mental health workforce development centre, The Werry Centre have shown interest in promoting the use of the SACS as a starting point for increasing BIs in the services they are responsible for training.

Nationwide training in BIs for CAMHS staff was, at one point, planned by the Werry Centre and I designed a 'Train the trainers' package for the SACSBI and helped to train AOD and mental health workers from around the country to facilitate this. Unfortunately political uncertainties and funding restrictions related to the recession intervened in the middle stages of this project and although some training of CAMHS workers has occurred in some parts of the country, the initial aims of the project have not been realised broadly across New Zealand as yet.

More successful have been my efforts to make the SACS widely accessible to health workers in New Zealand and further afield. Following the development and testing of the SACS the research team was successful in gaining support from the Alcohol Advisory Council to disseminate it and I oversaw the creation of a dedicated website that provides information about how to use, score and interpret the SACS, and from which the SACS can be downloaded free of charge (www.sacsinfo.com). This was created in 2006 making the Substances and Choices Scale easily accessible and free of charge to health professionals working in New Zealanders and further afield.

More recently information regarding the use of the SACS as a brief intervention has also been made available on the Internet accompanied by the extensive SACSBI training manual (Christie, 2010). This resource allows clinicians to teach themselves the fundamental principles of performing BIs in the same way that self-training is available for BIs using the AUDIT (Babor et al., 2007).

9.5. Future directions

Further research in regard to the SACS is recommended. A useful starting point might be evaluating its general uptake and use in services nationwide both as a screening instrument, and as a means to monitor outcome. Anecdotal information from discussions with AOD and CAMHS workers from various regions in New Zealand would suggest that its use is variable; some services use it to screen all young people coming through the door, others have not heard of it despite intermittent promotion of its use from time to time by agencies such as The Werry Centre.

In view of the relatively low numbers of specialist youth AOD and CAMHS services in New Zealand, and the fact that a 'stocktake' document that keeps an up to date record of their whereabouts and contact details exists (The Werry Centre, 2011), an evaluation of SACS use

could be completed fairly simply by asking a representative from each service to complete an email or online questionnaire. A more extensive project might aim to get feedback from the actual workers in services with regard to their use of screening and outcome measurement instruments. However I would be less in favour of this kind of larger project, as it would likely produce variable response rates affecting data quality and limiting the usefulness of recommendations. A better use of resources might be to use the information from a preliminary evaluation to focus on a small number of CAMHS identified as using and not using screening instruments and use qualitative techniques to ascertain the features of these services that facilitate this (or otherwise). From this, recommendations for mental health and addiction services could be formulated.

Further evaluation of the SACS Brief Intervention

The SACS's potential as part of a brief intervention package is clear and preliminary steps to evaluate its usefulness as a starting point for treatment are described in Chapter 8. The significant limitations of this study are acknowledged however and clearly further research is required to better establish the credentials of the SACSBI intervention package. Recommended future research includes an evaluation of the actual effectiveness of the SACSBI in terms of whether it leads to change in young people's substance use and/ or access to treatment.

Although there has been research into the effectiveness of BIs in young people, this has, in most cases, utilised adult screening tools such as the AUDIT (Saitz, Helmuth, Aromaa et al., 2004), or alternatively the brief intervention has been designed specifically for the research project (Martin & Copeland, 2008; O'Leary-Tevyaw & Monti, 2004) and is not necessarily readily transferable to the coalface. The SACSBI is based around a screening instrument with established effectiveness and acceptability and has been designed specifically for clinical use, thus may demonstrate advantages over other types of brief intervention. Although the success or otherwise of any intervention is likely to be only partly related to its content, as therapist training and individual qualities are likely to be as or more important, providing those doing the interventions with simple tools that are effective and in which they have confidence is likely to contribute positively to efficacy.

An interesting way to examine the SACSBI's effectiveness would be a study with an experimental design whereby different modes of teaching the SACSBI to workers were

tested against each other with a primary outcome being reduction in AOD use and related harm and/ or access to treatment for clients. AOD workers could be randomised to groups where they were either given self-teaching materials (such as those on the SACS website), trained via workshop or similar, or trained with intermittent follow up and refresher sessions. Obviously there are implications regarding the cost-effectiveness of different intensities of training and for interventions such as the SACSBI, when wide coverage of the population is required, these become increasingly important. Although effectiveness is likely to be shown in workers who have been trained and are supported in the ongoing implementation, more welcome (although less likely) would be to demonstrate effectiveness of an intervention that could be self-taught.

In addition, evaluation of the SACSBI in different health and social service settings would be welcome. The work in this thesis has been largely concerned with identifying and addressing comorbidity in AOD and mental health populations however BIs are more important in more general health settings such as emergency departments, school guidance and nursing services, child protection and youth justice services. This is because it is here that most young people come into contact with public services and the primary effect of brief interventions is engaging people into AOD treatment.

An online version of the SACS and SACSBI

The success of the SACS as not only a screening tool but as a brief intervention paves the way for its use more widely. In particular, its availability on the Internet opens up opportunities for further development in this area. Currently the SACS is available as a document that can be downloaded, printed out and completed on paper and its use is restricted to professionals that work with young people who are engaged with some kind of health agency. Future development might include a version that young people could fill out as a self-assessment tool online.

Testing the acceptability and safety of a self-completed online version of the SACS is a future project that could be undertaken relatively easily. On the website www.youthinmind.info (Youthinmind Ltd., 2011) young people are able to complete a self-rated version of the SDQ, which then provides a report of their scores and some limited feedback about what the scores might mean. A similar process would be relatively straightforward to set up for the

SACS but would require further assessment of its reliability and safety in this format as it has only been tested paper form.

Of the various challenges associated with delivering screening and interventions over the web (Tait & Christensen, 2010), some of the most important relate to this issue of young people completing instruments alone and what happens to them (Hallett, Maycock, Kypri et al., 2009). Ethical considerations necessitate the incorporation of some kind of feedback process as simply screening young people in isolation, without avenues for follow up, is seldom recommended. Fortunately the SACS already has some evidence for its safety and acceptability when used alone, as the psychometric testing stage of our research involved over 500 young people completing the SACS independently and without specific support from a clinician. Feedback from this process was largely positive. This is of particular relevance to planning an Internet version of the SACS as the concern that, by divulging sensitive information when completing the SACS, young people might become distressed in some way and need extra support, was not borne out by our research. That said, although the SACS is sometimes completed independently, experience of its use is predominantly within a therapeutic relationship or as part of a wider assessment, and as such an opportunity to follow up with a young person or provide support is usually available.

One possible way to address this concern (if it is indeed valid) in an Internet version of the SACS might be to incorporate some specific advice regarding contacting support services should a young person become upset whilst completing the instrument. It would make sense to extend this further so that advice about seeking support from AOD services was included also. As this information would be typical of advice that would usually be provided in a brief intervention, it follows that in designing a safe web-based version of the SACS screening instrument, some kind of brief intervention was incorporated. Thus those young people scoring highly in different areas could be provided with or directed to simple harm reduction information and/or means to access further input or treatment.

Once a web-based intervention was designed it would be important to evaluate it properly and it would be relatively simple to design a study to compare young people completing the SACS and related brief intervention online to those completing it face to face with a clinician and evaluate potential change in substance use over time. Randomisation of subjects at the entry point to services could be undertaken to enhance the quality of the study further.

9.6. Conclusions

The challenge of providing effective AOD treatment to young people is a significant one that is unlikely to be solved soon or simply. The complexity of the issues and factors related to this challenge requires a broad, flexible and effective response across a wide-range of systems and perspectives. As with many challenges in health, any kind of response first requires acknowledgement of the problem in general. Subsequent to this, actual identification of the problem can be promoted in populations and once this occurs, interventions usually follow.

This body of work has contributed to this challenge in a number of ways. I have raised awareness of the extent of comorbid AOD disorder in young people attending services and demonstrated that the international literature is relevant to New Zealand, in particular with regard to youth AOD and mental health services. The task of accurately identifying AOD problems in young people has been addressed in a small way via the creation of an acceptable and effective screening instrument, the SACS, and by making this easily available to a wide variety of clinicians who work with young people. Furthermore, I have been able to exploit the close link between screening and brief interventions in the AOD field by exploring the use of the SACS to conduct BIs for young people and examining the attitudes of CAMHS workers trained in this kind of work.

10. References

Aarons, G. A., Brown, S. A., Hough, R. L., Garland, A. F., & Wood, P. A. (2001). Prevalence of adolescent substance use disorders across five sectors of care. *Journal of the American Academy of Child and Adolescent Psychiatry*, 40(4), 419-426.

Adolescent Health Research Group. (2008). *Youth'07: The Health and Wellbeing of Secondary School Students in New Zealand. Initial Findings*. Auckland: The University of Auckland.

ALAC. (1996). *Review of alcohol and drug screening, diagnostic and evaluation instruments: Guidelines for alcohol and drug assessment*. Wellington: Alcohol Advisory Board.

ALAC. (2002). *ALAC youth drinking monitor*. Wellington: Alcohol Advisory Board.

Amaral-Sabadini, M. B., Saitz, R., & Souza-Formigoni, M. L. (2010). Do attitudes about unhealthy alcohol and other drug (AOD) use impact primary care professionals' readiness to implement AOD-related preventive care? *Drug And Alcohol Review*, 29(6), 655-661.

Ameratunga, S., Waayer, D., Robinson, E., Clark, T. C., Crengle, S., Denny, S., et al. (2011). *Youth '07: The health and wellbeing of secondary school students in New Zealand. Young people and alcohol*. Auckland: Adolescent Health Research Group, The University of Auckland.

American Academy of Child and Adolescent Psychiatry. (2005). Practice Parameter for the Assessment and Treatment of Youth in Juvenile Detention and Correctional Facilities. *Journal of the American Academy of Child and Adolescent Psychiatry*, 44(10).

American Academy of Pediatrics: Committee on Substance Abuse, & Kokotailo, P. K. (2010). Policy statement - alcohol use by youth and adolescents: a pediatric concern. *Pediatrics*, 125(5), 1078-1087.

American Psychiatric Association. (2010). *R substance use disorder; rationale for changes to substance-related disorders - combining substance abuse and dependence into one disorder*.

American Psychiatric Association. Retrieved 18 October 2011 from <http://www.dsm5.org/ProposedRevision/Pages/proposedrevision.aspx?rid=431> -).

American Psychiatric Association (Ed.). (2000). *Diagnostic and statistical manual of mental disorders - Fourth edition - Text revision (DSM-IV-TR)*. Washington DC: APA.

- Anderson, K. G., Ramo, D. E., Cummins, K. M., & Brown, S. A. (2009). Alcohol and drug involvement after adolescent treatment and functioning during emerging adulthood. *Drug and Alcohol Dependence, 107*, 171-181.
- Anderson, P., & Clement, S. (1987). The AAPPQ revisited: the measurement of general practitioners attitudes towards alcohol problems. *British Journal of Addiction, 82*, 753-759.
- Andrews, G., Peters, L., & Teesson, M. (1994). *The measurement of consumer outcome in mental health: A report to the National Mental Health Information Strategy Committee*. Sydney: Clinical Research Unit for Anxiety Disorders.
- Armstrong, T. D., & Costello, E. J. (2002). Community studies on adolescent substance use, abuse, or dependence and psychiatric comorbidity. *Journal of Consulting and Clinical Psychology, 70*(6), 1224-1239.
- Babor, T. F., & Higgins-Biddle, J. C. (2001). *Brief intervention for hazardous and harmful drinking: A manual for use in primary care*. Geneva: World Health Organisation.
- Babor, T. F., McRee, B., Kassebaum, P., Grimaldi, P., Ahmed, K., & Bray, J. (2007). Screening, brief intervention, and referral to treatment (SBIRT): Toward a public health approach to the management of substance abuse. *Substance Abuse, 28*(3), 7-30.
- Bachman, J. G., Wadsworth, K., O'Malley, P., Johnston, L., & Schulenberg, J. (1997). *Smoking, drinking and drug use in young adulthood: The impacts of new freedoms and new responsibilities*. Mahwah, NJ: Erlbaum.
- Baer, J. S., Beadnell, B., Garrett, S. B., Hartzler, B., Wells, E. A., & Peterson, P. L. (2008). Adolescent change language within a brief motivational intervention and substance use outcomes. *Psychology of Addictive Behaviors, 22*(4), 570-575.
- Baer, J. S., Garrett, S. B., Beadnell, B., Wells, E. A., & Peterson, P. L. (2007). Brief motivational intervention with homeless adolescents: Evaluating effects on substance use and service utilization. *Psychology of Addictive Behaviors, 21*(4), 582-586.
- Baker, A. L., Bucci, S., Kay-Lambkin, F. J., & Hides, L. (2007). Cognitive-Behaviour Therapy for people with co-existing mental health and drug and alcohol problems. In A. L. Baker & R. Velleman (Eds.), *Clinical handbook of co-existing mental health and drug and alcohol problems* (pp. 55-73). London: Routledge.
- Baker, A. L., Hides, L., & Lubman, D. I. (2010). Treatment of cannabis use among people with psychotic or depressive disorders: a systematic review. *Journal of Clinical Psychiatry, 71*(3), 247-254.

Baker, A. L., Kay-Lambkin, F. J., & Lewin, T. J. (2007). Co-existing mental health and drug and alcohol problems: Steps towards better treatment. In A. L. Baker & R. Velleman (Eds.), *Clinical handbook of co-existing mental health and drug and alcohol problems*. London: Routledge.

Baker, K., Lubman, D. I., Cosgrave, E., Killackey, E., Yuen, H., Hides, L., et al. (2007). Impact of co-occurring substance use on 6 month outcomes for young people seeking mental health treatment. *Australian and New Zealand Journal of Psychiatry*, *41*, 896-902.

Barnes, H. M. (2000). Kaupapa Maori: Explaining the ordinary. *Pacific Health Dialogue*, *7*(1), 13-16.

Barnett, N. P., Apodaca, T. R., Magill, M., Colby, S. M., Gwaltney, C., Rohsenow, D. J., et al. (2010). Moderators and mediators of two brief interventions for alcohol in the emergency department. *Addiction*, *105*(3), 452-465.

Bates, M. E., Laouvie EW. (1997). Adolescent risk factors and the prediction of persistent alcohol and drug use into adulthood. *Alcohol Clinical and Experimental Research*, *38*, 426-456.

Bauman, A., Phongsavan P. (1999). Epidemiology of substance use in adolescence: Prevalence, trends and policy implications. *Drug and Alcohol Dependence*, *55*, 187-207.

Bernstein, E., Topp, D., Shaw, E., Girard, C., Pressman, K., Woolcock, E., et al. (2009). A preliminary report of knowledge translation: Lessons from taking screening and brief intervention techniques from the research setting into regional systems of care. *Academy of Emergency Medicine*, *16*(11), 1225-1233.

Beveridge, J., Papps, R., & Bower, A. (2011). *Mental health outcomes information collection protocol*. Auckland: Te Pou - The national centre of mental health research, information and workforce development.

Bickman, L., Nurcombe, B., Townsend, C., Belle, M., Schut, J., & Karver, M. (1999). *Consumer measurement systems for child and adolescent mental health*. Canberra: Commonwealth Department of Health and Aged Care.

Bien, T. H., Miller, W. R., & Tonigan, J. S. (1993). Brief interventions for alcohol problems: A review. *Addiction*, *88*, 315-335.

Brannigan, R., Schackman, B. R., Falco, M., & Millman, R. B. (2004). The quality of highly regarded adolescent substance abuse treatment programs: Results of an in-depth national survey. *Archives of Paediatric and Adolescent Medicine*, *158*(9), 904-909.

Britton, J. (2009). *Young people's specialist substance misuse treatment: Exploring the evidence*. London: National Treatment Agency for Substance Misuse.

Brook, J. S., Cohen, P., & Brook, D. W. (1998). Longitudinal study of co-occurring psychiatric disorders and substance use. *Journal of the American Academy of Child and Adolescent Psychiatry, 37*(3), 322-331.

Brown, S. A., Creamer, V. A., & Stetson, B. A. (1987). Adolescent alcohol expectancies in relation to personal and parental drinking patterns. *Journal of Abnormal Psychology, 96*, 117-121.

Bukstein, O. G., Bernet, W., Arnold, V., Beitchman, J., Shaw, J., Benson, R. S., et al. (2005). Practice parameter for the assessment and treatment of children and adolescents with substance use disorders. *Journal of the American Academy of Child and Adolescent Psychiatry, 44*(6), 609-621.

Cartwright, A. K. J. (1980). The attitudes of helping agents towards the alcoholic client: The influence of experience, support, training and self esteem. *British Journal of Addiction, 75*, 413-431.

Chan, Y., Dennis, M. I., & Funk, R. R. (2008). Prevalence and comorbidity of major internalizing and externalizing problems among adolescents and adults presenting to substance abuse treatment. *Journal of Substance Abuse Treatment, 34*(1), 14-24.

Cheeta, S., Drummond, C., Oyefeso, A., Phillips, T., Deluca, P., Perryman, K., et al. (2008). Low identification of alcohol use disorders in general practice in England. *Addiction, 103*(5), 766-773.

Chen, C. Y., & Anthony, J. C. (2003). Possible age-associated bias in reporting of clinical features of drug dependence: Epidemiological evidence on adolescent-onset marijuana use. *Addiction, 98*, 71-82.

Chen, J., & Millar, W. J. (1998). Age of smoking initiation: Implications for quitting. *Health Reports, 9*(4), 39-46.

Christie, G. (2006). *Substances and choices scale website*. Alcohol Advisory Council. Retrieved 18 October 2011 from <http://www.sacsinfo.com/>

Christie, G. (2010). *The Substances and Choices Scale brief intervention manual: Complete version*. The Werry Centre for Child and Adolescent Mental Health. Retrieved 18 October 2011 from <http://www.sacsinfo.com/docs/SACSBImanualcom10.pdf>

- Christie, G., Marsh, R., Sheridan, J., Wheeler, A., Suaalii-Sauni, T., Black, S., et al. (2007). The Substances and Choices Scale (SACS) - The development and testing of a new alcohol and other drug screening and outcome measurement instrument for young people. *Addiction, 102*(9), 1390.
- Christie, G., Merry, S., & Robinson, E. (2010). Do young people attending addiction services differ from those attending youth mental health services? *Drug and Alcohol Review, 29*, 406-412.
- Chung, T., Martin, C. S., Winters, K. C., & Langenbucher, J. W. (2001). Assessment of alcohol tolerance in adolescents. *Journal of Studies on Alcohol, 62*, 687-695.
- Chung, T., Martin, C. S., Winters, K. C., Langenbucher, J. W., & Cornelius, J. R. (2004). Limitations in the assessment of DSM-IV cannabis tolerance as an indicator of dependence in adolescents. *Experimental and Clinical Psychopharmacology, 12*(2), 136-146.
- Clark, D. B., Gordon, A. J., Ettaro, L. R., Owens, J. M., & Moss, H. B. (2010). Screening and brief intervention for underage drinkers. *Mayo Clinic Proceedings, 85*(4), 380-391.
- Clark, D. B., & Moss, H. (2010). Providing alcohol-related screening and brief interventions to adolescents through health care systems: obstacles and solutions. *PLoS Medicine / Public Library of Science, 7*(3), e1000214.
- Cohen, P., Chen, H., Crawford, T. N., Brook, J. S., & Gordon, K. (2007). Personality disorders in early adolescence and the development of later substance use disorders in the general population. *Drug and Alcohol Dependence, 88S*, S71-S84.
- Compton, W. M., Thomas, Y. F., Stinson, F. S., & Grant, B. F. (2007). Prevalence, correlates, disability, and comorbidity of DSM-IV drug abuse and dependence in the United States. *Archives of General Psychiatry, 64*, 566-576.
- Crome, I. B. (1999). Treatment interventions: Looking towards the millennium. *Drug and Alcohol Dependence, 55*(3), 247-263.
- Dackis, C. A., Gold, M. S., & Pottash, A. L. (1986). Evaluating depression in alcoholics. *Psychiatry Research, 17*(105-109).
- Daley, D. C., Salloum, I. M., Zuckoff, A., Kirisci, L., & Thase, M. E. (1998). Increasing treatment adherence among outpatients with depression and cocaine dependence: Results of a pilot study. *American Journal of Psychiatry, 155*(11), 1611-1613.

- Dawes, M. A., & Johnson, B. A. (2004). Pharmacotherapeutic trials in adolescent alcohol use disorders: Opportunities and challenges. *Alcohol and Alcoholism*, 39(3), 166-177.
- De Micheli, D., & Formigoni, M. L. (2000). Screening of drug use in a teenage Brazilian sample using the Drug Use Screening Inventory (DUSI). *Addictive Behaviours*, 25(5), 683-691.
- Deas, D. (2006). Adolescent substance abuse and psychiatric comorbidities. *Journal of Clinical Psychiatry*, 67 (suppl. 7), 18-23.
- Deas, D., Riggs, P., Langenbucher, J., Goldman, M., & Brown, S. (2000). Adolescents are not adults: Developmental considerations in alcohol users. *Alcohol Clinical and Experimental Research*, 24(2), 232-237.
- Deering, D., Robinson, G., Adamson, S., Paton-Simpson, G., Robertson, P., Warren, H., et al. (2004). *Alcohol and drug outcomes project*. Auckland: Health Research Council of New Zealand.
- Degenhardt, L., & Dunn, M. (2007). *Illicit drug use in Australia: epidemiology, use patterns and associated harms*. Canberra: Department of Health and Ageing.
- Dennis, M. L., Godley, S. H., Diamond, G., Babor, T., Donaldson, J., Liddle, H., et al. (2004). The Cannabis Youth Treatment (CYT) study: Main findings from two randomized trials. *Journal of Substance Abuse Treatment*, 27(3), 197-213.
- Deykin, E. Y., Buka, S. L., & Zeena, T. H. (1992). Depressive illness among chemically dependent adolescents. *American Journal of Psychiatry*, 149(10), 1341-1347.
- Dolan, G. (2001). *The use of the drug screening inventory - revised (DUSI-R) with New Zealand adolescents*. Paper presented at the Cutting Edge Conference, Rotorua, New Zealand.
- Durie, M. (2004). Understanding health and illness: Research at the interface between science and indigenous knowledge. *International Journal of Epidemiology*, 33(5), 1138-1143.
- Duroy, T. H., Schmidt, S. L., & Perry, P. D. (2003). Adolescents' and young adults perspectives on a continuum of care in a three year drug treatment program. *Journal of Drug Issues*, 34(4), 801-832.
- Dyer, C. (1985). Contraceptives and the under 16's: House of Lords ruling. *British Medical Journal*, 291, 1208-1209.

- Ehrlich, P. F., Haque, A., Swisher-McClure, S., & Helmkamp, J. (2006). Screening and brief intervention for alcohol problems in a university student health clinic. *Journal of American College Health, 54*(5), 279-287.
- Essau, C. A. (2011). Comorbidity of substance use disorders among community-based and high-risk adolescents. *Psychiatry Research, 185*, 176-184.
- European Monitoring Centre for Drugs and Drug Addiction. (2009). *EMCDDA 2009 Thematic paper - Understanding the 'Spice' phenomenon*. Luxembourg: Office for Official Publications of the European Communities.
- Falk, D. E., Yi, H., & Hilton, M. E. (2008). Age of onset and temporal sequencing of lifetime DSM-IV alcohol use disorders relative to comorbid mood and anxiety disorders. *Drug and Alcohol Dependence, 94*(1-3), 234-245.
- Farrow, J. A., Smith, W. R., & Hurst, M. D. (1993). *Adolescent drug and alcohol assessment instruments in current use: a critical comparison*. Washington State: Alcohol and Drug Abuse Institute, University of Washington.
- Feehan, M., McGee, R., Nada-Raja, S., & Williams, S. (1994). DSM-III-R disorders in New Zealand 18 year olds. *Australian and New Zealand Journal of Psychiatry, 28*, 87-99.
- Feingold, A., & Rounsaville, B. (1995). Construct validity of the dependence syndrome as measured by DSM-IV for different psychoactive substances. *Addiction, 90*, 1661-1669.
- Fergusson, D. M., & Horwood, L. J. (2000a). Alcohol abuse and crime: A fixed effects regression analysis. *Addiction, 95*, 1525-1536.
- Fergusson, D. M., & Horwood, L. J. (2000b). Does cannabis use encourage other forms of illicit drug use? *Addiction, 95*(4), 505-520.
- Fergusson, D. M., Horwood, L. J., & Lynskey, M. T. (1993). Prevalence and comorbidity of DSM-III-R diagnoses in a birth cohort of 15 year olds. *Journal of the American Academy of Child and Adolescent Psychiatry, 32*, 1127-1134.
- Fergusson, D. M., Horwood, L. J., & Swain-Campbell, N. (2002). Cannabis use and psychosocial adjustment in adolescence and young adulthood. *Addiction, 97*(9), 1083-1086.
- Fergusson, D. M., & Lynskey, M. T. (1996). Alcohol misuse and adolescent sexual behaviours and risk taking. *Paediatrics, 98*(1), 91-96.

Fidalgo, T. M., da Silveira, E. D., & da Silveira, D. X. (2008). Psychiatric comorbidity related to alcohol use among adolescents. *American Journal of Drug and Alcohol Abuse, 34*(83-89), 83-89.

Fisher, S. L. (2006). Teenagers are right - parents do not know much: An analysis of adolescent-parent agreement on reports of adolescent substance use, abuse, and dependence. *Alcoholism, Clinical And Experimental Research, 30*(10), 1699-1710.

Fleming, M. (1997). Strategies to increase alcohol screening in health care settings. *Alcohol Health and Research World, 21*(4), 340 - 347.

Fulkerson, J. A., Harrison, P. A., & Beebe, T. J. (1999). DSM-IV substance abuse and dependence: Are there really two dimensions of substance use disorders in adolescents? *Addiction, 94*(4), 495-506.

Gaines, P., Bower, A., Buckingham, W., Eagar, K., Burgess, P., Green, J., et al. (2003). *New Zealand mental health classification and outcomes study - final report*. Auckland: Health Research Council of New Zealand.

Gavin, D. R., Ross, H. E., & Skinner, H. A. (1989). Diagnostic validity of the Drug Abuse Screening Test in the assessment of DSM-III drug disorders. *British Journal of Addiction, 84*, 301-307.

Geirsson, M., Bendtsen, P., & Spak, F. (2005). Attitudes of Swedish general practitioners and nurses to working with lifestyle change, with special reference to alcohol consumption. *Alcohol and Alcoholism, 40*(5), 388-393.

Golub, A., Johnson BD. (1994). The shifting importance of alcohol and marijuana as gateway substances among serious drug abusers. *Journal of Studies in Alcohol, 55*, 607-614.

Goodman, R., Ford, T., Simmons, H., Gatward, R., & Meltzer, H. (2000). Using the Strengths and Difficulties Questionnaire (SDQ) to screen for child psychiatric disorders in a community sample. *British Journal of Psychiatry, 177*, 534-539.

Gordon, S., Ellis, P., Haggerty, C., Pere, L., Platz, G., & McLaren, K. (2004). *Mental health research & development strategy: Preliminary work towards the development of a self-assessed measure of consumer outcome*. Auckland: Health Research Council of New Zealand.

Gossop, M., Marsden, J., Stewart, D., Lehmann, P., Edwards, C., Wilson, A., et al. (1998). Substance use, health and social problems of service users at 54 drug treatment agencies: Intake data from the National Treatment Outcome Research Study. *British Journal of Psychiatry, 173*, 166-171.

- Goti, J., Diaz, R., Serrano, L., Gonzalez, L., Calvo, R., Gual, A., et al. (2010). Brief intervention in substance-use among adolescent psychiatric patients: A randomized controlled trial. *European Child & Adolescent Psychiatry, 19*(6), 503-511.
- Gowers, S. G., Harrington, R. C., Whitton, A., Lelliott, P., Beevor, A., Wing, J., et al. (1999). Brief scale for measuring the outcomes of emotional and behavioural disorders in children: Health of the Nation Outcome Scales for Children and Adolescents (HoNOSCA). *The British Journal of Psychiatry, 174*, 413-416.
- Graham, H. L. (2004). Implementing integrated treatment for co-existing substance use and severe mental health problems in assertive outreach teams: Training issues. *Drug and Alcohol Review, 23*, 463-470.
- Grant, B. F., & Dawson, D. A. (1997). Age at onset of alcohol use and its association with DSM-IV alcohol abuse and dependence. *Journal of Substance Abuse, 9*, 103-110.
- Graves, K. L. (1995). Risky sexual behaviour and alcohol use among young adults: Results from a national survey. *American Journal of Health Promotion, 10*, 27-36.
- Greenbaum, P. E., Prange, M. E., Friedman, R. M., & Silver, S. E. (1991). Substance abuse prevalence and co-morbidity with other psychiatric disorders among adolescents with severe emotional disturbances. *Journal of the American Academy of Child and Adolescent Psychiatry, 30*(4), 575-583.
- Grella, C. E., Hser, Y. I., Joshi, V., Rounds-Bryant, J. L., Kristiansen, P. L., & Hubbard, R. L. (2001). Drug treatment outcomes for adolescents with comorbid mental and substance use disorders. *Journal of Nervous and Mental Disorders, 189*(6), 384-392.
- Grilo, C. M., Becker, D. F., Walker, M. L., Levy, K. N., Edell, W. S., & McGlashan, T. H. (1995). Psychiatric comorbidity in adolescent inpatients with substance use disorders. *Journal of the American Academy of Child and Adolescent Psychiatry, 34*(8), 1085-1091.
- Hall, W. D. (2006). Cannabis use and the mental health of young people. *Australian and New Zealand Journal of Psychiatry, 40*(2), 105-113.
- Hallett, J., Maycock, B., Kypri, K., Howat, P., & McManus, A. (2009). Development of a Web-based alcohol intervention for university students: Processes and challenges. *Drug & Alcohol Review, 28*(1), 31-39.
- Harrison, P. A., Fulkerson, J. A., & Beebe, T. J. (1997). Multiple substance use among adolescent physical and sexual abuse victims. *Child Abuse and Neglect, 21*, 529-539.

- Harrison, P. A., Fulkerson, J. A., & Beebe, T. J. (1998). DSM-IV Substance use disorder criteria for adolescents: A critical examination based on a statewide school survey. *American Journal of Psychiatry*, *155*, 486-492.
- Hasin, D. S., Grant, B., & Endicott, J. (1990). The natural history of alcohol abuse: Implications for the definitions of alcohol use disorders. *American Journal of Psychiatry*, *147*(11), 1537-1541.
- Heather, N. (2002). Effectiveness of brief interventions proved beyond reasonable doubt. *Addiction*, *97*, 293-294.
- Henggeler, S. W., Clingempeel, W. G., Brondino, M. J., & Pickrel, S. G. (2002). Four year follow-up of multisystemic therapy with substance abusing and substance dependent juvenile offenders. *Journal of the American Academy of Child and Adolescent Psychiatry*, *41*(7), 868 -874.
- Hibell, B., Guttormsson, U., Balakireva, O., Bjarnason, T., Kokkevi, A., & Kraus, L. (2009). *The 2007 ESPAD report - Substance use among students in 35 European countries*. Stockholm: The Swedish Council for Information on Alcohol and Other Drugs (CAN).
- Hingson, R. W., Heeren, T., Zakocs, R. C., Kopstein, A., & Wechsler, H. (2002). Magnitude of alcohol-related mortality and morbidity among U.S. college students ages 18-24. *Journal of Studies on Alcohol*, *63*(2), 136-144.
- Hodges, K. (1993). Structured interviews for assessing children. *Journal of Child Psychology and Psychiatry*, *34*, 49-68.
- Horwood, L. J., & Fergusson, D. M. (1998). *Psychiatric disorder and treatment seeking behaviour in a birth cohort of young adults*. Wellington: Ministry of Health.
- Horwood, L. J., & Fergusson, D. M. (2000). Drink driving and traffic accidents in young people. *Accident Analysis and Prevention*, *32*, 805-814.
- Hovens, J. G., Cantwell, D. P., & Kiriakos, R. (1994). Psychiatric comorbidity in hospitalised adolescent substance abusers. *Journal of the American Academy of Child and Adolescent Psychiatry*, *33*(4), 476-483.
- Howard, D. E., Griffin, M. A., & Boekeloo, B. O. (2008). Correlates of alcohol-related sexual assault among university students. *Adolescence*, *43*, 733-750.

- Hser, Y. I., Grella, C. E., Hubbard, R. L., Hsieh, S. C., Fletcher, B. W., Brown, B. S., et al. (2001). An evaluation of drug treatments for adolescents in 4 US cities. *Archives of General Psychiatry*, 58(7), 689-695.
- Jernigan, D. H. (2001). *Global status report: Alcohol and young people*. Geneva: World Health Organisation.
- Johnson, L. D., O'Malley, P. M., Bachman, J. G., & Schulenberg, J. E. (2009). *Monitoring the future; national results on adolescent drug use: Overview of key findings*. Bethesda MD: National Institute on Drug Abuse.
- Kahler, C. W., Hustad, J., Barnett, N. P., Strong, D. R., & Borsari, B. (2008). Validation of the 30-day version of the Brief Young Adult Alcohol Consequences Questionnaire for use in longitudinal studies. *Journal of Studies in Alcohol and Drugs* 69(4), 611-615.
- Kaminer, Y. (1999). Addictive disorders in adolescents. *The Psychiatric Clinics of North America*, 22(2).
- Kaminer, Y., Wagner, E., Plummer, B., & Seifer, R. (1993). Validation of the Teen Addiction Severity Index. *The American Journal of the Addictions*, 2(3), 250-254.
- Kandel, D. B., Johnson, J. G., Bird, H. R., Weissman, M. M., Goodman, S. H., Lahey, B. B., et al. (1999). Psychiatric comorbidity among adolescents with substance use disorders: Findings from the MECA study. *Journal of the American Academy of Child and Adolescent Psychiatry*, 38(6), 693-699.
- Kandel, D. B., Yamaguchi, K., & Chen, K. (1992). Stages of progression in drug involvement from adolescence to adulthood: Further evidence for the gateway theory. *Journal of Studies in Alcohol*, 53, 447-457.
- Kaner, E., Heather, N., McAvoy, B., Lock, C., & Gilvarry, E. (1999). Intervention for excessive alcohol consumption in primary healthcare: Attitudes and practices of english general practitioners. *Alcohol and Alcoholism*, 34(4), 559-566.
- Kavanagh. (2000). Contrasting views and experiences of health professionals on the management of comorbid substance misuse and mental disorders. *Australian and New Zealand Journal of Psychiatry*, 34, 279-289.
- Kelly, T. M., Cornelius, J. R., & Clark, D. B. (2004). Psychiatric disorders and attempted suicide among adolescents with substance use disorders. *Drug and Alcohol Dependence*, 73(1), 87-97.

- King, R. D., Gaines, L. S., Lambert, W. E., Summerfelt, T. W., & Bickman, L. (2000). The co-occurrence of psychiatric and substance use diagnoses in adolescent in different services systems: Frequency, recognition, cost, and outcomes. *The Journal of Behavioral Health Services & Research, 27*(4), 417-430.
- Kirisci, L., Mezzich A, Tarter R. (1995). Norms and sensitivity of the adolescent version of the drug use screening inventory. *Addictive Behaviours, 20*(2), 149-157.
- Knight, J. R., Goodman, E., Pulerwitz, T., & DuRant, R. H. (2001). Reliability of the Problem Oriented Screening Instrument for Teenagers (POSIT) in adolescent medical practice. *Journal of Adolescent Health, 29*(2), 125-130.
- Knight, J. R., Sherritt, L., Harris, S. K., Gates, E. C., & Chang, G. (2003). Validity of brief alcohol screening tests among adolescents: a comparison of the AUDIT, POSIT, CAGE, and CRAFFT. *Alcoholism: Clinical & Experimental Research, 27*(1), 67-73.
- Knight, J. R., Sherritt, L., Shrier, L. A., Harris, S. K., & Chang, G. (2002). Validity of the CRAFFT substance abuse screening test among adolescent clinic patients. *Archives of Paediatrics and Adolescent, 156*(6), 607-614.
- Kramer, T. L., Robbins, J. M., Phillips, S. D., Miller, T. L., & Burns, B. J. (2003). Detection and outcomes of substance use disorders in adolescents seeking mental health treatment. *Journal of the American Academy of Child & Adolescent Psychiatry, 42*(11), 1318-1326.
- Krupski, A., Sears, J. M., Joesch, J. M., Estee, S., He, L., Dunn, C., et al. (2010). Impact of brief interventions and brief treatment on admissions to chemical dependency treatment. *Drug and Alcohol Dependence, 110*(1-2), 126-136.
- Kurtzman, T. L., Otsuka, K. N., & Wahl, R. A. (2001). Inhalant abuse by adolescents. *Journal of Adolescent Health, 28*(3), 170-180.
- Lambert, M., Conus, P., Lubman, D. I., Wade, D., Yuen, H., & Moritz, S. (2005). The impact of substance use disorders on clinical outcome in 643 patients with first-episode psychosis. *Acta Psychiatrica Scandinavica, 112*(2), 141-148.
- Latimer, W. W., Stone, A. L., Voight, A., Winters, K. C., & August, G. J. (2002). Gender differences in psychiatric comorbidity among adolescents with substance use disorders. *Experimental and Clinical Psychopharmacology, 10*(3), 310-315.
- Latimer, W. W., Winters, K. C., & Stinchfield, R. D. (1997). Screening for drug abuse among adolescents in clinical and correctional settings using the Problem-Oriented Screening Instrument for Teenagers. *American Journal of Drug and Alcohol Abuse, 23*(1), 79-98.

- Lee, N., Caporilli, O., Connolly, K., & Barratt, M. (2004). *Brief interventions for substance use: Interventions guidelines – Final report*. Fitzroy, Victoria: Turning Point Alcohol and Drug Centre Inc.
- Levy, S., Sherritt, L., Harris, S. K., Gates, E. C., Holder, D. W., Kulig, J. W., et al. (2004). Test-retest reliability of adolescents' self-report of substance use. *Alcohol Clinical and Experimental Research, 28*(8), 1236-1241.
- Lewinsohn, P. M., Hops, H., Roberts, R. E., Seeley, J. R., & Andrews, J. A. (1993). Adolescent psychopathology: I. Prevalence and incidence of depression and other DSM III-R disorders in high school students. *Journal of Abnormal Psychology, 102*, 133-144.
- Lewinsohn, P. M., Rohde, P., & Seeley, J. R. (1996). Alcohol consumption in high school adolescents: Frequency of use and dimensional structure of associated problems. *Addiction, 91*(3), 375-390.
- Libretto, S. V., Weil, J., Nemes, S., Linder, N. C., & Johnsson, A. (2004). Snapshot of the substance abuse treatment workforce in 2002: A synthesis of current literature. *Journal of Psychoactive Drugs, 36*(4), 489-497.
- Liddle, H. A., & Rowe, C. L. (2006). *Adolescent Substance Abuse*. New York: Cambridge University Press.
- Livingston, M., Laslett, A., & Dietze, P. (2008). Individual and community correlates of young people's high-risk drinking in Victoria, Australia. *Drug and Alcohol Dependence, 93*(3).
- Loxley, W. (2004). *The prevention of substance use, risk and harm in Australia: A review of the evidence*. Canberra: Department of Health and Ageing.
- Lubman, D. I., Allen, N. B., Rogers, N., Cementon, E., & Bonomo, Y. (2007). The impact of co-occurring mood and anxiety disorders among substance abusing youth. *Journal of Affective Disorders, 103*, 105-112.
- Lubman, D. I., Hides, L., & Yucel, M. (2006). Inhalant misuse in youth: Time for a coordinated response. *Medical Journal of Australia, 185*(6), 327-330.
- Lubman, D. I., Hides, L., Yucel, M., & Toumbourou, J. W. (2007). Intervening early to reduce developmentally harmful substance use among youth populations. *Medical Journal of Australia, 187*(7 Suppl), S22-25.
- Lubman, D. I., King, J., & Castle, D. J. (2010). Treating comorbid substance use disorders in schizophrenia. *International Review of Psychiatry, 22*, 191-201.

- Maisto, S. A., McKay, J. R., & Connors, G. J. (1990). Self report issues in substance abuse: State of the art and future directions. *Behavioural Assessment, 12*, 117-134.
- Mallett, K. A., Turrisi, R., Larimer, M. E., & Mastroleo, N. R. (2009). Have I had one drink too many? Assessing gender differences in misperceptions of intoxication among college students. *Journal of Studies on Alcohol and Drugs, 70*, 964-970.
- Mallinson, S. (2002). Listening to respondents: A qualitative assessment of the Short-Form 36 Health Status Questionnaire. *Social Science and Medicine, 54*, 11-21.
- Manning, V., Strathdee, G., Best, D., Keaney, F., McGillivray, & Witton, J. (2002). Dual diagnosis screening: preliminary findings on the comparison of 50 clients attending mental health services and 50 clients attending community substance misuse services. *Journal of Substance Use, 7*(4), 221-228.
- Mark, T. L., Song, X., Vandivort, R., Duffy, S., Butler, J., Coffey, R., et al. (2006). Characterizing substance use programs that treat adolescents. *Journal of Substance Abuse Treatment, 31*(1), 59-65.
- Martin, C. S., Kaczynski, N., Maisto, S. A., Bukstein, O. M., & Moss, H. B. (1995). Patterns of DSM-IV alcohol abuse and dependence symptoms in adolescent drinkers. *Journal of Studies on Alcohol, 56*, 672-679.
- Martin, C. S., Langenbucher, J., & Kaczynski, N. (1996). Staging in the onset of DSM-IV alcohol abuse and dependence in adolescent drinkers. *Journal of Studies in Alcohol, 57*(549-558).
- Martin, G. W., & Copeland, J. (2008). The adolescent cannabis check-up: randomized trial of a brief intervention for young cannabis users. *Journal of Substance Abuse Treatment, 34*(4), 407-414.
- Martin, G. W., Pearlman, S., & Li, S. (1998). The test-retest reliability of the frequency of multiple drug use in young drug users entering treatment. *Journal of Substance Abuse, 10*(3), 275-290.
- McCambridge, J., & Strang, J. (2004). The efficacy of single-session motivational interviewing in reducing drug consumption and perceptions of drug related risk and harm among young people: Results from a multi-site cluster randomised trial. *Addiction, 99*, 39-52.
- McGorry, P. D. (2007). The specialist youth mental health model: Strengthening the weakest link in the public mental health system. *Medical Journal of Australia, 187*(7 Suppl), S53-56.

- McLellan, A. T., & Myers, K. (2004). Contemporary addiction treatment: A review of systems problems for adults and adolescents. *Biological Psychiatry*, 56(10), 764-770.
- Mellsop, G., & O'Brien, G. (2000). *Outcomes summary report: Mental health research and development strategy*. Wellington: Health Research Council of New Zealand.
- Melnick, G., De Leon, G., Hawke, J., Jainchill, N., & Kressel, D. (1997). Motivation and readiness for therapeutic community treatment among adolescents and adult substance abusers. *The American Journal of Drug and Alcohol Abuse*, 23(4), 485-506.
- Mental Health Commission. (2002). *Report on Progress 2000-2002 towards implementing the Blueprint for Mental Health Services in New Zealand*. Wellington: Mental Health Commission of New Zealand.
- Merikangas, K. R., & Kalaydjian, A. (2007). Magnitude and impact of comorbidity of mental disorders from epidemiologic surveys. *Current Opinion in Psychiatry*, 20, 353-358.
- Merry, S., Stasiak, K., Lambie, I., Parkin, A., Seymour, F., Crengle, S., et al. (2004). *Child and youth outcome measures: Examining current use and acceptability of measures in mental health services and recommending future directions*. Auckland: University of Auckland.
- Milin, R., Halikas, J. A., Meller, J. E., & Morse, C. (1991). Psychopathology among Substance Abusing Juvenile Offenders. *Journal of the American Academy of Child and Adolescent Psychiatry*, 30(4), 569-574.
- Miller, F. G. (1997). SASSI: application and assessment for substance-related problems. *Journal of Substance Misuse*, 2, 163-166.
- Miller, T. J., Levy, D. T., Spicer, R. S., & Taylor, D. M. (2006). Societal costs of underage drinking. *Journal of Studies on Alcohol*, 67, 519-528.
- Miller, W. R., & Rollnick, S. (2002). *Motivational Interviewing: Preparing People for Change* (2nd ed. ed.). London: Guildford Press.
- Minister of Health. (2005). *Te Tāhuhu – Improving mental health 2005–2015: The second New Zealand mental health and addiction plan*. Wellington: Ministry of Health.
- Code of Health and Disability Services Consumers' Rights (1996 1996).
- Ministry of Health. (2001a). *National Alcohol and Drug Services Funding Strategy: Background paper*. Wellington.
- Ministry of Health. (2001b). *A National Strategic Framework for Alcohol and Drug Services*. Wellington: Ministry of Health.

Ministry of Health. (2005). *National Mental Health Information Strategy 2005-2010*. Wellington: Ministry of Health.

Ministry of Health. (2010). *Service delivery for people with co-existing problems: integrated solutions*. Wellington: Ministry of Health.

Ministry of Justice. (2011, 14 September 2012). *Drivers of crime investment package*. New Zealand Government. Retrieved 21 November 2011 from <http://www.beehive.govt.nz/sites/all/files/DriversofCrimeInvestmentPackage.pdf>

Moberg, D. P. (1983). Identifying adolescents with alcohol problems: A field test of the Adolescent Alcohol Involvement Scale. *Journal of Studies on Alcohol*, 44(4), 701- 721.

Moberg, D. P., & Hahn, L. (1991). The Adolescent Drug Involvement Scale. *Journal of Adolescent Chemical Dependency*, 2(1), 75-88.

Mojtabai, R., Olfson, M., & Mechanic, D. (2002). Perceived need and help-seeking in adults with mood, anxiety, or substance use disorders. *Archives of General Psychiatry*, 59(1), 77-84.

Molina, B. S., Bukstein, O. G., & Lynch, K. G. (2002). Attention-deficit/hyperactivity disorder and conduct disorder symptomatology in adolescents with alcohol use disorder. *Psychology of Addictive Behaviours*, 16(2), 161-164.

Moriarty, H., Stubbe, M., & Bradford, S. (2009). *Opportunities for alcohol and other drug advice in the GP consultation*. Wellington: University of Otago.

Morrall, A. R., McCaffrey, D. F., Rigeway, G., Mukherji, A., & Beighley, C. (2006). *The relative effectiveness of 10 adolescent substance abuse treatment programs in the United States*. Santa Monica: RAND Corporation, Drug Policy Research Centre.

Moyer, A., Finney, J. W., Swearingen, C. E., & Vergun, P. (2002). Brief interventions for alcohol problems: a meta-analytic review of controlled investigations in treatment seeking and non-treatment seeking populations. *Addiction*, 97, 279-292.

Munro, A., Watson, H. E., & McFayden, A. (2007). Assessing the impact of training on mental health nurses' therapeutic attitudes and knowledge about co-morbidity: a randomized controlled trial. *International Journal of Nursing Studies*, 44, 1430-1438.

Muthen, B. O., Grant, B., & Hasin, D. (1993). The dimensionality of alcohol abuse and dependence: factor analysis of DSMIII-R and proposed DSMIV criteria in the 1988 National Health Interview Survey. *Addiction*, 88, 1079-1090.

- Muthen, B. O., Hasin, D., & Wisnicki, K. S. (1993). Factor analysis of ICD -10 symptom items in the 1988 National Health Interview Survey on Alcohol Dependence. *Addiction, 88*, 1071-1077.
- National Ethics Advisory Committee. (2006). *Ethical guidelines for observational studies: Observational research, audits and related activities*. Ministry of Health. Retrieved 22 July 2008 from [http://www.neac.health.govt.nz/moh.nsf/pagescm/520/\\$File/ethicalguidelines.pdf](http://www.neac.health.govt.nz/moh.nsf/pagescm/520/$File/ethicalguidelines.pdf)
- National Treatment Agency for Substance Misuse. (2005). *Young people's substance misuse treatment services - Essential elements*. London: NTA.
- National Treatment Agency For Substance Misuse. (2009). *Getting to grips with substance misuse among young people - The data for 2007/2008*. London: NTA.
- Nissen, L. B., Hunt, S. R., Bullman, S., Marmo, J., & Smith, D. (2004). Systems of care for treatment of adolescent substance use disorders: Background, principles and opportunities. *Journal Of Psychoactive Drugs, 36*(4), 429-438.
- O'Leary-Tevyaw, T., & Monti, P. M. (2004). Motivational enhancement and other brief interventions for adolescent substance abuse: Foundations, applications and evaluations. *Addiction, 99* (Suppl. 2), 63-75.
- O'Neil, K. A., Conner, B. T., & Kendall, P. C. (2011). Internalizing disorders and substance use disorders in youth: Comorbidity, risk, temporal order and implications for intervention. *Clinical Psychology Review, 31*, 104-112.
- Oakley-Browne, M. A. (1989). Christchurch Psychiatric Epidemiology Study, Part 2: Six month and other period prevalences of specific psychiatric disorders. *Australian and New Zealand Journal of Psychiatry, 23*, 327-340.
- Oakley-Browne, M. A., Wells, E. A., & McGee, M. A. (2006). Twelve-month and lifetime health service use in Te Rau Hinengaro: the New Zealand Mental Health Survey. *Australian and New Zealand Journal of Psychiatry, 40*, 855-864.
- Offord, D. R., Boyle, M. H., Fleming, J. E., Blum, H. M., & Rae-Grant, N. I. (1989). Ontario Child Health Study: Summary of selected results. *Canadian Journal of Psychiatry, 34*, 483-491.
- Patton, G. C., Coffey, C., Carlin, J. B., Degenhardt, L., Lynskey, M., & Hall, W. D. (2002). Cannabis use and mental health in young people: Cohort study. *British Medical Journal, 325*, 1195-1198.

- Prochaska, J. A., DiClemente, C. C., & Norcross, J. C. (1992). In search of how people change: Applications to addictive behaviour. *American Psychology, 47*, 1102 - 1114.
- Pulford, J., McCormick, R., Wheeler, A., Firkin, P., Scott, I., & Robinson, G. (2007). Alcohol assessment: The practice, knowledge, and attitudes of staff working in the general medical wards of a large metropolitan hospital. *New Zealand Medical Journal, 120*(1257), 1-9.
- Reavley, N. J., Cvetkovski, S., Jorm, A. F., & Lubman, D. I. (2010). Helpseeking for substance use, anxiety and affective disorders among young people: Results from the 2007 Australian National Survey of Mental Health and Wellbeing. *Australian & New Zealand Journal of Psychiatry, 44*, 729-735.
- Richter, L., & Johnson, P. B. (2001). Current methods of assessing substance use: A review of the strengths, problems and developments. *Journal of Drug Issues, 31*(4), 809-832.
- Robbins, M. S., Kumar, S., Walker-Barnes, C., Feaster, D. J., Briones, E., & Szapocznik, J. (2002). Ethnic differences in comorbidity among substance abusing adolescents referred to outpatient therapy. *Journal of American Academy of Child and Adolescent Psychiatry, 41*(4), 394-401.
- Roberts, R. E., Roberts, C. R., & Xing, Y. (2007). Comorbidity of substance use disorders and other psychiatric disorders among adolescents: Evidence from an epidemiologic survey. *Drug and alcohol dependence, 88S*, S4-S13.
- Robotham, D., & James, K. (2009). *Evaluation of the Choice and Partnership Approach in Child and Adolescent Mental Health Services in England*. London: Mental Health Foundation.
- Roche, A., & Freeman, T. (2004). Brief interventions: Good in theory but weak in practice. *Drug and Alcohol Review, 23*, 11-18.
- Rounds-Bryant, J. L., Kristiansen PL, Hubbard RL. (1999). Drug abuse treatment outcome study of adolescents: A comparison of client characteristics in and pretreatment behaviours in three treatment modalities. *American Journal of Drug and Alcohol Abuse, 25*(4), 573-591.
- Rowe, C. L., Liddle, H. A., Greenbaum, P. E., & Henderson, C. E. (2004). Impact of psychiatric comorbidity on treatment of adolescent drug abusers. *Journal of Substance Abuse Treatment, 26*(2), 129-140.
- Saitz, R., Helmuth, E. D., Aromaa, S. E., Guard, A., Belanger, M., & Rosenbloom, D. L. (2004). Web-based screening and brief intervention for the spectrum of alcohol problems. *Preventive Medicine, 39*(5), 969-975.

- Schroder, R., Sellman, D., Frampton, C., & Deering, D. (2009). Youth retention: Factors associated with treatment drop-out from youth alcohol and other drug treatment. *Drug and Alcohol Review, 28* (6), 663-668.
- Schubert, K., Pond, A. N., Kraft, M. K., & Aquirre-Molina, M. (2004). The adolescent addiction treatment workforce: Status, challenges and strategies to address their particular needs. *Journal of Psychoactive Drugs, 36*(4), 483-488.
- Schwartz, R. H., & Wirtz, P. W. (1990). Potential substance abuse: Detection among adolescent patients using the Drug and Alcohol Problem (DAP) Quick Screen, a 30 item questionnaire. *Clinical Pediatrics, 29*(1), 38-43.
- Schweer, L. H. (2009). Pediatric SBIRT: Understanding the magnitude of the problem [Review]. *Journal of Trauma Nursing, 16*(3), 142-147.
- Sheridan, J., Wheeler, A., Ju-Hsing Chen, L., Chen-Yun Huang, A., Nga-Yee Leung, I., & Yow-Chyi Tien, K. (2008). Screening and brief interventions for alcohol: Attitudes, knowledge and experience of community pharmacists in Auckland, New Zealand. *Drug and Alcohol Review, 27*, 380-387.
- Shrier, L. A., Harris, S. K., Kurland, M., & Knight, J. R. (2003). Substance use problems and associated psychiatric symptoms among adolescents in primary care. *Pediatrics, 111*, 699-705.
- Singh, Y., & Fortune, C. (2011). *The SACS project: Substance use in young offenders in New Zealand*. Paper presented at the Faculty of Child and Adolescent Psychiatry Forensic Mental Health Conference, Shangri-La Hotel, Sydney.
- Skinner, N., Roche, A., Freeman, T., & McKinnon, A. (2009). Health professionals' attitudes to AOD-related work: Moving the traditional focus from education and training to organisational culture. *Drugs: Education, Prevention and Policy, 16*(3), 232-249.
- Statistics New Zealand. (2007). *Profile of New Zealander responses, ethnicity question: 2006 census*. Wellington: NZ Government.
- Sterling, S., Kohn, C. S., & Lu, Y. (2004). Pathways to chemical dependency treatment for adolescents in an HMO. *Journal of Psychoactive Drugs, 36*, 439-453.
- Sterling, S., Weisner, C., Hinman, A., & Parthasarathy, S. (2010). Access to treatment and adolescents with substance use and co-occurring disorders: Challenges and opportunities. *Journal of American Academy of Child and Adolescent Psychiatry, 49*(7), 637-646.

Stewart, D. G., & Brown, S. A. (1995). Withdrawal and dependency symptoms among adolescent alcohol and drug abusers. *Addiction, 90*, 627-635.

Stowell, R. J., & Estroff, T. W. (1992). Psychiatric disorders in substance-abusing adolescent inpatients: A pilot study. *Journal of the American Academy of Child and Adolescent Psychiatry, 31*(6), 1036-1040.

Strandheim, A., Holmen, T. L., Coombes, L., & Bentzen, N. (2009). Alcohol intoxication and mental health among adolescents - A population review of 8983 young people, 13-19 years, in North Trondelag, Norway: The Young-HUNT Study. *Child and Adolescent Psychiatry and Mental Health, 3*(18).

Sung, M., Erlanli, A., Angold, A., & Costello, J. (2004). Effects of age at first substance use and psychiatric comorbidity on the development of substance use disorders. *Drug and Alcohol Dependence, 75*, 287-299.

Swadi, H., & Bobier, C. (2003). Substance use disorder comorbidity among youth with psychiatric disorder. *Australian and New Zealand Journal of Psychiatry, 37*, 294-298.

Swanton, R., Collin, P., Burns, J., & Sorensen, I. (2007). Engaging, understanding and including young people in the provision of mental health services. *International Journal of Adolescent Medicine and Health 19*(3), 325-332.

Tait, R. J., & Christensen, H. (2010). Internet-based interventions for young people with problematic substance use: A systematic review. *Medical Journal of Australia, 192*(11 Suppl.), S15-S21.

Tait, R. J., & Hulse, G. K. (2003). A systematic review of the effectiveness of brief interventions with substance using adolescents by type of drug. *Drug and Alcohol Review, 22*(3), 337-346.

Tarter, R., & Kirisci, L. (1997). The Drug Use Screening Inventory for adults: psychometric structure and discriminative sensitivity. *American Journal of Drug and Alcohol Abuse, 23*(2), 207-219.

Tarter, R., Kirisci, L., & Mezzich, A. (1997). Multivariate typology of adolescents with alcohol use disorder. *The American Journal of Addictions, 6*(2), 150-157.

Te Pou. (2009). *MH-SMART*. National Centre of Mental Health Research Information and Workforce Development,. Retrieved 18 October 2011 from <http://www.tepou.co.nz/page/643-outcome-measures+mh-smart>

Te Pou. (2010). *Outcome measures*. National Centre of Mental Health Research Information and Workforce Development,. Retrieved 19 August 2011 from <http://www.tepou.co.nz/page/82-outcome-measures>

Teesson, M., Baillie, A., Lynskey, M., Manor, B., & Degenhardt, L. (2006). Substance use, dependence and treatment seeking in the United States and Australia: a cross national comparison. *Drug and Alcohol Dependence, 81*, 149-155.

Teesson, M., Hall, W., Lynskey, M., & Degenhardt, L. (2000). Alcohol and drug use disorders in Australia: Implications of the National Survey of Mental Health and Wellbeing. *Australian and New Zealand Journal of Psychiatry, 34*, 206-213.

The Werry Centre. (2011). *2010 Stocktake of infant, child and adolescent mental health and alcohol and other drug services in New Zealand*. Auckland: The Werry Centre for Child & Adolescent Mental Health Workforce Development, University of Auckland.

Thomas, D. (2006). A general inductive approach for analyzing qualitative evaluation data. *American Journal of Evaluation, 27*, 237-246.

Timko, C., Dixon, K., & Moos, R. H. (2005). Treatment for dual diagnosis patients in the psychiatric and substance abuse systems. *Mental Health Services Research, 7*, 229-242.

Tims, F. M., Dennis, M. L., Buchan, B. J., Diamond, G., Funk, R., & Brantley, L. B. (2002). Characteristics and problems of 600 adolescent cannabis abusers in outpatient treatment. *Addiction, 97*, 46-57S41.

Todd, F. C. (2010). *Te Ariari o te Oranga: The assessment and management of people with co-existing mental health and substance use problems*. Wellington: Ministry of Health.

Tomlinson, K. L., Brown, S. A., & Abrantes, A. (2004). Psychiatric comorbidity and substance use treatment outcomes of adolescents. *Psychology of Addictive Behaviours, 18*(2), 160-169.

Tuohy, P. (1998). *Consent in Child and Youth Health*. Wellington: Ministry of Health.

Turner, W. C., Muck, R. D., Muck, R. J., Stephens, R. L., & Sukumar, B. (2004). Co-occurring disorders in the adolescent mental health and substance abuse treatment systems. *Journal of Psychoactive Drugs, 36*(4), 455-462.

Urbanoski, K. A., Cairney, J., Bassani, D. G., & Rush, B. R. (2008). Perceived unmet need for mental health care for Canadians with co-occurring mental and substance use disorders. *Psychiatric Services, 59*(3), 283-289.

Weiss, R. D., Mirin, S. M., & Griffin, M. L. (1992). Methodological considerations in the diagnosis of coexisting psychiatric disorders in substance abusers. *British Journal of Addiction, 87*, 179-187.

Weithorn, L., Cambell, S. (1982). The competency of children and adolescents to make informed treatment decisions. *Child Development, 53*, 1589-1598.

Wells, E. A., Horwood, L. J., & Fergusson, D. M. (2007). Reasons why young adults do or do not seek help for alcohol problems. *Australian and New Zealand Journal of Psychiatry, 41*, 1005-1012.

Wells, J. E., Baxter, J., & Schaff, D. (2007). *Substance use disorders in Te Rau Hinengaro: The New Zealand Mental Health Survey*. Wellington: Alcohol Advisory Council of New Zealand.

WHO. (1993). *The ICD-10 Classification of Mental and Behavioural Diseases: Tenth revision*. Geneva: World Health Organisation.

WHO ASSIST Working Group. (2002). The Alcohol, Smoking and Substance Involvement Screening Test (ASSIST): Development, reliability and feasibility. *Addiction, 97*(9), 1183-1194.

Wilens, T. E., Biederman, J., Abrantes, A. M., & Spencer, T. J. (1997). Clinical characteristics of psychiatrically referred adolescent outpatients with substance use disorder. *Journal of the American Academy of Child and Adolescent Psychiatry, 36*(7).

Wilens, T. E., Biederman, J., & Spencer, T. J. (1994). Co-morbidity of attention-deficit disorder and psychoactive substance use disorders. *Hospital and Community Psychiatry, 45*, 421-435.

Wilson, C. R., Sheritt, L., Gates, E. C., & Knight, J. R. (2004). Are clinical impressions of adolescent substance use accurate? *Pediatrics, 114*, 536-540.

Winters, K. C. (1992). Development of an adolescent alcohol and other drug abuse screening scale: Personal Experience Screening Questionnaire. *Addictive Behaviours, 17*, 479-490.

Winters, K. C. (1999a). *Screening and assessing adolescents for substance use disorders: Treatment improvement protocol (TIP): Series 31*. Rockville: U.S. Department of Health and Human Services.

Winters, K. C. (1999b). Treating adolescents with substance use disorders: An overview of practice issues and treatment outcome. *Substance Abuse, 20*, 203-225.

Winters, K. C., Latimer, W., & Stinchfield, R. D. (1999). The DSM-IV criteria for adolescent alcohol and cannabis use disorders. *Journal of Studies on Alcohol, 60*(3), 337-344.

Winters, K. C., Stinchfield, R. D., Fulkerson, J. A., & Henly, G. A. (1993). Measuring alcohol and cannabis use disorders in an adolescent clinical sample. *Psychology of Addictive Behaviours*, 7(3), 185-196.

Wise, B. K., Cuffe, S. P., & Fischer, T. (2001). Dual diagnosis and successful participation of adolescents in substance abuse treatment. *Journal of substance abuse treatment*, 21(3), 161-165.

Woerner, W., Fleitlich-Bilyk, B., Martinussen, R., Fletcher, J., Cucchiaro, G., Dalgalarrrondo, P., et al. (2004). The Strengths and Difficulties Questionnaire overseas: Evaluations and applications of the SDQ beyond Europe. *European Child and Adolescent Psychiatry*, 13(Sup 2), ii47-ii54.

Woodhouse, K. (2004). Young people and smoking. In Crome L., H. Ghodse, E. Gilvarry & P. McArdle (Eds.), *Young people and substance misuse* (pp. 114-128). London: Royal College of Psychiatrists.

World Health Organisation. (1993). Development of the Alcohol Use Disorders Identification Test (AUDIT). *Addiction*, 88(6), 791-804.

Wu, L. T., Hoven, C. W., Tiet, Q., Kovalenko, P., & Wicks, J. (2002). Factors associated with adolescent utilization of alcohol treatment services. *American Journal of Drug and Alcohol Abuse*, 28, 353-369.

Young, D. W., Dembo, R., & Henderson, C. E. (2007). A national survey of substance abuse treatment for juvenile offenders. *Journal of Substance Abuse Treatment*, 32(3), 255-266.

Youth Justice; Child Youth and Family. (2009). *Fresh Start*. Ministry of Social Development. Retrieved 19 September 2011 from <http://www.cyf.govt.nz/youth-justice/fresh-start.html>

Youthinmind Ltd. (2011). *Youth in Mind*. Youth in Mind. Retrieved 15 September 2011 from <http://www.youthinmind.info/>

11. Appendices

Notes on appendices	180
Appendix 1. Comparison study clinician protocol document	181
Appendix 2. Comparison study ethics permission	184
Appendix 3. Comparison study participant / parent letter	185
Appendix 4. Comparison study participant information sheet	186
Appendix 5. Comparison study parent information sheet	187
Appendix 6. Comparison study consent form	188
Appendix 7. Comparison study client demographic section of questionnaire	189
Appendix 8. Comparison study DUSI instrument	190
Appendix 9. SACS study 5, 6 & 7 – Ethics permission	193
Appendix 10. SACS study 5 youth worker feedback questionnaire	194
Appendix 11. SACS study 5 clinician information sheet	199
Appendix 12. SACS study 5 participant information sheet	201
Appendix 13. SACS study 5 Parent information sheet	203
Appendix 14. SACS Study 5 client feedback record	205
Appendix 15. SACS study 5 Researcher protocol	213
Appendix 16. SACS study 5 ‘non-consumer’ feedback stage	214
Appendix 17. SACS study 5, 6 & 7 Consent Form	220
Appendix 18. SACS study 5 – Preliminary1 SACS	221
Appendix 19. SACS study 5 - Preliminary2 SACS	223
Appendix 20. SACS study 6 - PenultimateSACS (Community)	224
Appendix 21. SACS study 6 – Penultimate SACS (clinical)	225
Appendix 22. SACS study 7 - Final SACS (Clinical)	226
Appendix 23. SACS Study 7 – Final SACS (community)	227
Appendix 24. SACS study 6 & 7 – Representative participant information sheet	228
Appendix 25. SACS Study 6 & 7 – Representative parent information sheet	230
Appendix 26. SACS study 6 & 7 – Representative letters to clinical participant parents	232
Appendix 27. SACS study 6 & 7 – Representative letter to community participant parents	236
Appendix 28. SACS study 5, 6 & 7 - Demographic information form	237
Appendix 29. SACS study 5, 6 & 7 – Feedback form	238
Appendix 30. Copy of CRAFFT Questionnaire	239
Appendix 31. Copy of POSIT Questionnaire	240
Appendix 32. Copy of Strengths and Difficulties Questionnaire	241
Appendix 33. Brain teaser questions (for those non-consenters)	242
Appendix 34. SACS study 6 & 7 – Representative researcher protocol (clinical sample)	244
Appendix 35. SACS study 6 & 7 – Representative researcher protocol (community sample)	248
Appendix 36. Attitudes study - Letter from ethics committee	251
Appendix 37. Attitudes study – Pre workshop questionnaire	252
Appendix 38. Attitudes study – Post workshop questionnaire	261

Notes on appendices

1. Some of the appendices may appear incomplete (e.g. no titles or pictures) or formatted incorrectly. This because the difficulties transferring the original documents in their actual format, into this thesis. For some documents, for example, the title was located in the header of the document. For others, 'youth friendly' fonts used at the time, are no longer accessible and have been replaced leading to formatting glitches.
2. Appendices referring to the research study detailed in chapter 3 are abbreviated 'Comparison study'.
3. Appendices referring to research detailed in chapters 4, 5, 6 and 7 are abbreviated 'SACS study' followed by the chapter number i.e. (SACS study 5).
4. There were slightly different client and parent information sheets for the different stages of the SACS study however for the purposes of this thesis the most representative version is included only.
5. Appendices referring to research detailed in chapter 8 are abbreviated 'Attitudes study'.

Appendix 1. Comparison study clinician protocol document

Clinician Information Sheet

Full title- 'Self-reported substance use, psychiatric symptoms and psychosocial problems in adolescents: A comparison between youth who present to alcohol and drug services and those who present to mental health services.'

Abr title- Substance use and other difficulties faced by youth attending Waitemata Health youth services'- A confidential study

Thanks very much for helping me with collecting data for the above study. I believe that the study is a worthwhile project, which is likely to benefit both RADS and C&A services. It will provide a snapshot of the kinds of clientele that each service sees and will help in accessing resources and planning services in the future. These days it is seldom acceptable for services to be managing patients without objective audit and appraisal of their activities. This is particularly true in child and adolescent populations where much of the work we do has a limited evidence base backing it up. Hopefully you will see this study as an opportunity to review and improve your service as well as practice safe mental health treatment.

Procedures for recruiting participants, gaining informed consent and collecting data

The following is a guide around how to gather the data that is required for the study. It is not cast in stone and please adapt it to suit your style of practice if required.

1) Who is eligible to participate?

Everyone who - is a new or established client of your service
- is aged 14 - 18 at the time they complete the study.
- is able to provide informed consent
- is able to fill out the questionnaire with (or without) your help or the help of a translator.

2) Who should be excluded?

- 13 and 19 year olds.
- Youth who are acutely unwell (significantly depressed, psychotic, intoxicated, very distressed) at the time of recruiting (they may be asked later when their symptoms settle).
- Youth who have significant intellectual impairment (can't understand the questions or incapable of giving consent).

3) Informing clients of the opportunity to participate.

Participants need to have time to consider whether or not they would like to take part in the study. Thus they need to be informed of the study in advance.

4) Mailing the information sheets

The best way to ensure that participants have had an opportunity to think about whether they will take part or not will be by mailing the information sheets to them. This will occur at the time that their appointment time is being sent to them. Either clinicians or clerical staff may be asked to post off both a pack including a letter, information sheet and parent information sheet with the other information that goes to patients.

5) Informing participants on the telephone

Mailing information may not be possible for some children (who have appointments booked immediately or who have parents that are not informed they are attending the service). Informing participants preliminarily could occur at the time that the assessment is being arranged on the telephone. For those patients who are unable to be contacted the current session could be used to introduce the study. They could be asked if they would like to participate in the study at a later date (i.e. the time of their next appointment). If discussing the study with a client on the phone it would be best to use the information sheet as an aide memoir.

6) Discussion with participants

A possible approach might go like this.

"I was wondering if I could tell you about a research project that we are currently undertaking here at Altered High (Marinoto North etc.) The study is trying to work out what kind of problems young people have to deal with, especially around the use of alcohol and drugs. Hopefully it will mean that we are able to provide a better service for children coming here in the future. It involves filling out a health questionnaire, essentially answering some yes/no questions on a form. You can get help filling it out from me (your counsellor) at the time. Your parents will not be involved as it is a private and confidential questionnaire, which will remain anonymous. Anonymous means that no one will know that the answers you put on the sheet were from you. If you would like to take part we can schedule you a little more time for your appointment as the questionnaire takes about 20 minutes to complete."

7) Discussion with parents on telephone or at a prior appointment

The study needs to be discussed with parents (if they are aware of the child's treatment). When speaking with the parents it would be important to stress that whether or not their child participates this will not affect the child's treatment. It would be important to stress that the questionnaire is anonymous thus the parents would not be involved in filling it out, although they would be involved in helping provide informed consent. It would also be important to mention that the questionnaire is in plain English and asks simple questions about the child's substance use, their feelings and any problems that they are having at school, at home or at work. It would need to be stressed that none of the questions are distressing in any way.

Children (and their parents) who state that they needn't be involved because they do not use substances will need to have it explained to them that this kind of information is just what the study is seeking.

8) Gaining informed consent at the time of participation in the study

If the youth has agreed to take place in the study then there needs to be the opportunity for them to discuss the study with their clinician (you) prior to providing written consent. The consent form will be in an envelope with the actual study. They will need to read this and understand it before signing it and as their clinician, this is the time that you need to be happy that they are competent to participate in the study. Clearly if the youth has active severe psychiatric symptoms or is intellectually impaired, then involvement in the study should stop at this point.

The written consent forms will be numbered and this number will correlate with a number on the DUSI self report form but otherwise the self report form should not have the name of the participant on it.

9) Completion of the self-report form

In most cases the youth will be able to do this themselves however they may wish to complete it with you (their clinician) and this is to be encouraged. It could well be a valuable tool in facilitating the assessment process and should provide a broad overview of many different areas of psychosocial adversity thus enriching the assessment process and hopefully improving understanding of their problems and rapport.

The process should take about 20 minutes however you would be wise to allow at least half an hour for the whole process of obtaining consent and discussion of the test after it has been completed.

10) Discussion following completion of the self-report form

Following completing the DUSI self report from the participant needs to be given the opportunity to discuss it with the clinician and in particular the clinician should check that the youth did not find completing the form distressing in any way. If this is so, standard safety checks etc should be employed as would be the case in the course of the usual assessment process.

11) Feedback of the results of the study

As detailed on the information sheet if the participant would like a summary sheet of the study's results they can indicate this on the consent form and this will be mailed to them when the study is completed.

12) What about those who refuse or aren't eligible?

For those youth who do not participate in the study (for whatever reason) the clinician will still need to fill out the demographic data on the front sheet of the questionnaire. This will enable us to compare those who participated against those who didn't and inform us whether the two groups are biased.

13) Once the info is collected then what?

I will organise an envelope or a tray in a secure place in each service where completed questionnaires can be placed. I'll then collect them and score them. Once this has been done they will be returned to the respective clinicians to be filed. As an alternative mode of collecting information the questionnaire should be a valuable addition to the client's record.

Thanks very much again for all your help.

*Principal Investigator Dr Grant Christie,
'Altered High' RADS - 316 Richmond Road, Grey Lynn, Auckland
Ph 093616858, Fax 093605818, Cell 0252237018
Email – grant.christie@WaitemataDHB.govt.nz*



Appendix 3. Comparison study participant / parent letter

September 2002

Dear Client and Parent/Guardian/Caregiver,

RE: Substance use and other difficulties faced by young people attending Waitemata Health youth services'- A confidential study

Marinoto North are currently undertaking research into substance use by young people, the effect it has on their mental health and other problems it might create. To this end we are asking *all clients* that attend Marinoto (not just those with substance use problems) if they might consider participating in this research.

Information sheets about the study are enclosed with this letter for you and your parents/guardians/caregivers.

As we see it the benefits of participating in the study will be two-fold.

- Firstly it will add to the assessment and treatment process (as it will be an alternative source of information in addition to the clinical interview).
- Secondly it will hopefully lead to better designed and better funded services for young people in the future.

If you want to be part of this research we would ask that you allow a little more time for your appointment than you might usually. This may mean arriving half an hour before or leaving half an hour after your appointment depending what is more convenient for you.

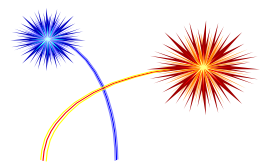
Julie, our receptionist, will be able to organise this with you either on the phone or when you arrive at Marinoto North.

Please call if you have any questions. I can be contacted either at Marinoto or the address and phone number below.

Thanks very much for your consideration.

Dr Grant Christie

'Altered High' Youth A&D Service
316 Richmond Road
Grey Lynn, Auckland
Ph 093616858 Fax 093605818
Email – grant.christie@waitematadhb.govt.nz



Appendix 4. Comparison study participant information sheet

~PARTICIPANT INFORMATION SHEET~

‘Substance Use and Other Difficulties Faced by Young People Attending Waitemata DHB Youth Services’ - *A confidential study*

Can you help? – Hi, I am a doctor who works with young people who are having problems with drug and alcohol use. As someone who is attending Waitemata DHB Youth Services you are invited to take part in a study that is looking to discover what these problems might be. We need your help even if you don’t use alcohol and drugs as the study includes all clients.

What do you have to do? - All you have to do for the study is complete a questionnaire called the Drug Use Screening Inventory, essentially answer some yes/no questions. It takes about 20 minutes. You can do this alone or with your counsellor. It is fine to get help or talk about any of the questions with your counsellor if you want to.

Will anyone know you are involved? - The study is **confidential**. This means that when the results of the study come out **no one will know that you were involved**. The scores of your questionnaire will be de-identified, added to all the other participants’ scores and presented together. Once scored, your questionnaire will be stored in your clinical file as it may be helpful for the team that is treating you. Only your treating team will have access to it.

Do you have to? - The study is **voluntary**. This means that **you do not have to do the questionnaire** if you don’t want to. Whether or not you complete the questionnaire will not have any to do with what happens in your counselling session. **You will still get the same help whatever you decide.**

Are there any risks? - If you find the questionnaire too hard or upsetting, **you are allowed to stop it** or ask your counsellor for help. Your counsellor is there to talk about any strong feelings you might have at the time you are completing it. They can assist you to get any help that you might need if you feel upset. Below I have listed alternative places you can access help if you are unable to do this through your counsellor.

What are the benefits? – The questionnaire may help with your treatment as it is an alternative way of collecting information (as opposed to an interview.) When enough questionnaires have been collected the results will be analysed. Hopefully the results will inform Waitemata DHB about the kinds of problems that young people have to deal with and they will be able to plan better ways to help people like you. If you would like to know what I eventually find then you can indicate this on the consent form or contact me at the address below and I will send you **a summary of my findings**.

What are your rights? – If you have any queries or concerns regarding your rights as a participant in this study, you may wish to contact a Health & Disability Advocate, telephone 0800 555 050. In the unlikely event of a physical injury as a result of your participation in this study, you will be covered by the accident compensation legislation within its limitations.

Thanks for considering this proposal.

This study has received ethical approval from the Auckland Ethics Committee.

*Principal Investigator - Dr Grant Christie,
‘Altered High’ - 316 Richmond Road, Grey Lynn, Auckland
Ph 093616858, Fax 093605818
Email – grant.christie@WaitemataDHB.govt.nz*



Appendix 5. Comparison study parent information sheet

~INFORMATION SHEET FOR PARENTS/GUARDIANS~

'Substance Use and Other Difficulties Faced by Young People Attending Waitemata DHB Youth Services' - A confidential study

Why? - I am a psychiatrist who is currently working and doing research with young people that have **difficulties associated with alcohol and drug use**. I'm doing research across a number of services in Waitemata Health to investigate how those difficulties might differ in clients who are attending different kinds of services. The aim is to better describe and understand the youth who present to Waitemata Health so that we can provide more targeted services and better treatment for them in the future.

What? - As your young person is attending a Waitemata Youth Services **he or she will be invited to take part** in a study. The study includes all youth (whatever the reason they attend) and involves answering a health questionnaire called the Drug Use Screening Inventory. It is made up of **yes/no** questions. The questionnaire can be filled out alone or with the counsellor involved. We would prefer that parents do not supervise participants when they complete it. This is because alcohol and drug use is a subject that young people can often find difficult to be honest about (especially with parents).

Voluntary and confidential - The study is **voluntary**. This means that **your young person does not have to do the questionnaire** if he or she doesn't want to. Whether or not the questionnaire is completed will not have any to do with what happens in his or her counselling session. **Your young person will still get the same help whatever he or she decides. The study is confidential.** Any information the participants provide will be de-identified and there will be no way of knowing they were involved.

Is it difficult or upsetting? - The questionnaire asks for **yes/no** answers on a range of subjects and lasts about 20 minutes. None of these are sensitive and the questionnaire is not expected to be upsetting for those completing it. However if it is then the participants are **allowed to stop it** and will be encouraged to ask for help. The counsellor knows about the study and is there to talk about any strong feelings the participants might have when completing it. They can assist your child to access help if required. Below I have also listed other places to access help if this is unable to be done through the counsellor.

Will it help the participants? - The questionnaire may help with your young person's treatment as it is an alternative way of collecting information (as opposed to an interview.) When enough questionnaires have been collected the results will be analysed. Hopefully the results will inform Waitemata DHB about the kinds of problems that young people have to deal with and we will be able to plan better ways to help youth.

Consent - Those who agree to be a part of the study will be asked to sign a consent form. This simply states that they have considered the information provided in the information sheet and agree to be a participant. **If your young person is under 16 years old and you do not want him or her to be involved in the study that is fine. Please contact his or her counsellor to inform us about this.**

Thank you very much for your help.

This study has received ethical approval from the Auckland Ethics Committee.

Principal Investigator -
Dr Grant Christie, 'Altered High'
316 Richmond Road, Grey Lynn, Auckland
Ph 093616858, Fax 093605818, Email grant.christie@waitematahb.govt.nz





Appendix 6. Comparison study consent form

Substance Use and Other Difficulties Faced by Young People Attending Waitemata DHB Youth Services' - A confidential study

~CONSENT FORM~

Please tick the boxes

➤ I wish to have an interpreter Yes No

➤ I have read and I understand the attached information sheet. My counsellor has explained the study and I have had an opportunity to discuss it with them. Yes No

➤ I understand that taking part in the study is entirely my own choice. Whether or not I decide to take part will not affect the help I receive from my counsellor. Yes No

➤ I understand that my participation in this study is entirely confidential. There will be nothing in the final report on the study that could identify me. Yes No

➤ I have had enough time to consider whether to take part in the study and I know I can contact my counsellor or Grant Christie, the principle investigator, if I have any questions about the study. Yes No

I consent to take part in the study. Yes No

Name of participant .

Signature .

Name of witness ..

Signature . .

Date . .

If you would like a written summary of the results of the study sent to you please supply your address below

.
..
..



Appendix 7. Comparison study client demographic section of questionnaire

DUSI-R **FORM**
Youth
Past Month



- 1) Age- in years
- 2) Gender- male female
- 3) Ethnicity- Maori
 Pacific Island
 Pakeha/European
 Asian
 Other
- 4) Service- Altered High
 Tupu
 Te Atea Marino
 Marinoto
- 5) Appt- 1st Assessment
 Follow up



6) How many times have you used each of the following drugs listed in the **last month**? Please fill in the table.

Substance	0 times	1-2 times	3-9 times	10-20 times	More than 20 times
A] alcohol/ beer/ wine/ spirits					
B] marijuana/ cannabis/ hash/ weed					
C] benzos/ sleeping tablets/ tranquilisers					
D] ecstasy/ e					
E] gbh/ liquid e					
F] lsd/ acid/ mushrooms/ hallucinogens					
G] amphetamine/ speed/ pure/ ice/ whizz					
H] cocaine/ crack/ charlie / blow					
I] heroin/ morphine/ opiates/ methadone					
J] glue/ solvents/ petrol sniffing					
K] tobacco/ cigarettes					
L] anabolic steroids/ roids					
M] other drugs (list.....)					

7) Which drug caused you the most problems?..... (A,B,C etc)

8) Which drug do you prefer the most? (A,B,C etc)



Well done

keep going... just tick the boxes yes or no.



Appendix 8. Comparison study DUSI instrument

Appendix 8. Comparison study DUSI instrument

Please note that Pages 190 – 192 have been removed for Copyright reasons.

For information about the DUSI-R please go to

<http://www.yourhealthcheck.org/organization/dusi>

Appendix 10. SACS study 5 youth worker feedback questionnaire

Development and Testing of the SACS - The Substances and Choices Scale

Youth worker feedback questionnaire

The SACS Investigation Team, a collaboration between Waitemata DHB and University of Auckland, is developing a new consumer-rated youth alcohol and other drug (AOD) screening and outcome measurement instrument. Called the **SACS** (Substances and Choices Scale), it will be a self completed, youth-appropriate, reliable and valid instrument that can be used in conjunction with the Strengths and Difficulties Questionnaire (SDQ). We anticipate that while initially it will be used in Youth AOD and mental health services to screen for substance use difficulties and measure the outcome of treatment interventions, in the future it may possibly be utilised in other settings such as primary care and schools.

We are currently in the preliminary stage of designing the specific items (questions) that will go into the instrument. We need guidance from clinicians who provide AOD and mental health interventions for young people at this vital stage. We would be grateful if you could take the time to consider a number of issues about the design and composition of the instrument.

Essentially all we would like you to do is peruse a preliminary version of the SACS and provide feedback about its strengths and weaknesses, any omissions or important issues that we might have overlooked. The whole process will be as long or as short as you feel it needs to be. Even if you provide only one comment about an issue that you feel is important, it may be very useful.

More detailed information about the project, including information about the investigation team and the funding of the research, is provided at the end of this document for those who are interested in doing more reading.

However for those who haven't much time, please read on... make any comments that you might have in the spaces provided and then return to the below email address.

When finished please return email to grant.christie@waitematadhb.govt.nz or alternatively you can print it out with your answers and return by snail mail to Grant Christie, CADS Youth Service, 316 Richmond Rd, Grey Lynn, Auckland.

A) Below (in blue) is a preliminary template of Part 1. of two parts of the SACS. This section is where we ask about young people's actual substance use. It is currently only a draft and your comments will likely lead to changes in its appearance and content. Please read through it, considering it from the point of view of the young person completing it and also from the position of a clinician using it for recording and monitoring purposes.

Substances and Choices Scale

The following questions are about **substances** that you might have taken. **Substances** include alcohol **and** any other drug that is not being prescribed for you by a doctor.

If you didn't use any substances over the last month, skip questions 1, 2 and 3 and go on to question 4.

1. On how many times did you use each of the following substances in the last month?

- Tick one box on each row that best describes your use for each substance	Didn't use at all	Used once or twice	Used once a week or less	Used more than once a week	Used every day or more
A Alcoholic drinks (e.g. beer, wine, spirits)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B Cannabis (e.g. weed, marijuana, pot, skunk)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C Amphetamines (e.g. speed, 'p', 'ice', whiz)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D Cocaine (e.g. coke, crack, blow)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E Ecstasy and other party drugs (e.g. 'E', mdma, GHB)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F Hallucinogens (e.g. LSD, acid, mushrooms)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
G Inhalants (e.g. glue, petrol, solvents)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
H Opiates (e.g. heroin, morphine, methadone, smack)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I Sedatives (e.g. sleeping pills, benzos, jellies, valium)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
J Other drugs (e.g. Nitrous, herbal highs) <i>Name them here</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. In the last month, which **one** of the above substances did you use the most?

- Mark **A, B, C** etc corresponding to the list in Question 1

3. In the last month when you used this substance, did you usually take

- Mark the **one** box that fits best

a small amount to see what it was like

just enough to help you relax and feel good

just enough to get out of it (drunk, stoned, high etc)

so much you got totally wasted (smashed, coma'ed etc)

A1) Do you have any comments to make about the above layout and structure of this section? If so make them here.

A2) Any comments about the content of this section?

A3) Any other comments?

B) To follow are items from the second (main) section of the SACS questionnaire. This is the section that will screen, and monitor outcomes with regard to behaviours and symptoms related to substance use. Currently there are more items than required. When finalised, it is likely to have only 10 to 15 items and these may be grouped under specific headings (such as 'Impact', and 'Harm') to provide subscales within a total score. Although the latest literature is guiding us in terms of what will be included in this part, (and discriminant testing will also determine its end content) your input is still likely to influence the design in some way.

The items below are in the format of the Strengths and Difficulties Questionnaire (SDQ). The SDQ is an outcome measurement instrument and is structured as statements against which the young person indicates whether or not they agree or disagree. The SDQ assesses functioning across 5 subscales that include 'Prosocial behaviour', 'Attention/hyperactivity', 'Emotional symptoms', 'Conduct and behaviour' and 'Peer problems.' The SACS therefore will not include questions in these areas as it is intended that the SACS is used in conjunction with the SDQ.

B1) Please consider the following preliminary items as detailed below, rank those that you would include with a 1 and those that you would exclude with a 0 in the left hand column. Following this we would be grateful if you could then provide answers to the questions that follow.

Substances and Choices Scale

For the following items, please mark one of the three boxes (either Not True, Somewhat True or Certainly True.) It would help us if you answered all items as best you can even if you are not absolutely certain. Please give your answers on the basis of how things have been for you **over the last month...**

	<i>In the last month ...</i>	Not True	Somewhat True	Certainly True
1	Other people have been concerned about my alcohol or drug use.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	I took alcohol or drugs when I was alone.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	I was in control of my alcohol or drug use.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	I found it hard to resist taking drugs or alcohol when they were available.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	I hung out or had strong cravings to use alcohol or drugs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	I was not at all concerned about my alcohol and drug use.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	I felt bad or guilty about my alcohol or drug use.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	I got withdrawal symptoms (such as sweating, headaches, feeling sick or shaking) when I cut down my use of alcohol or drugs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9	I worried that I might be hooked or addicted to alcohol or drugs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10	I needed more and more alcohol or drugs to get the same effect.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11	I spent any spare money I had on alcohol or drugs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12	Most of my free time was spent getting hold of, or taking, alcohol or drugs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13	I found it difficult to stop taking alcohol or drugs once I had started.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14	I often wished that I could cut down on the amount of alcohol and drugs that I was taking.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15	I took more alcohol or drugs than I intended to.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16	My alcohol or drug use prevented me doing other things that I had planned.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

17	I had physical health problems because of my use of alcohol or drugs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18	I had emotional difficulties (such as unhappy mood, nervousness or anxiety, paranoid thinking or strange experiences) which might be linked to my use of alcohol or drugs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19	My alcohol and drug use led to difficulties in my friendships.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20	My alcohol or drug use led to arguments with my parents (or caregivers).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21	My performance or attendance at school (or at work) was affected by my alcohol or drug use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22	I attended school (or work) while under the influence of alcohol or drugs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23	I took so much alcohol or drugs that I blacked out or had memory loss.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24	I took risks that could have led to a serious injury when I used alcohol or drugs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25	I broke the law (stealing, vandalism, assaults etc) when taking alcohol or drugs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26	I got into trouble when using (or because I was using) alcohol or drugs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27	I drove when using alcohol or drugs or rode in a car driven by someone who had been taking alcohol or drugs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28	I had unsafe sex or an unwanted sexual experience when taking alcohol or drugs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

B2) Comments regarding the wording and structure of the items in general (or specifically – use the numbers to reference any specific comments)? Acceptable or not? Can you envisage problems with the format?

B3) Comments regarding the possible content of the items. What else do you think needs to be included?

B4) Comments regarding possible categorisation of possible subscales (if any?) What should these be?

B5) Anything else you want to say?

Thank you very much for your time. We are very grateful for your help. If you could send this document (with your changes) back to grant.christie@waitematadhb.govt.nz you will be contributing to the development of a free screening and outcome measurement instrument that may be available for widespread use in a couple of years.

If you have time and want to comment further about the study and the matter of screening and outcome measurement in young people please feel free to provide more comments in areas as detailed below.

C1) With regard to assessing the pattern of a young person's substance use (i.e. what substances they are using, how much they are using and how often etc), do you have any comments to make about this in terms of...

The most important considerations when monitoring and recording young people's substance use?

The optimum way to record and monitor a young person's substance use?

Problems that are encountered when trying record and monitor a young person's substance use?

C2) With regard to the monitoring of behaviours and symptoms associated with (or as a consequence of) substance use, do you have any comments to make about how this should be done in the SACS in the following areas

Symptoms of dependence

Impact on psychosocial functioning (i.e. schooling, family life)

Harm related to use

Appendix 11. SACS study 5 clinician information sheet

The Development and Testing of the Substances and Choices Scale

Further Information about the project

Principle Investigator:

Dr Grant Christie - Child and Adolescent Psychiatrist, CADS Youth Service 'Altered High,' Waitemata DHB

Co-Investigators:

- Tuhakia Keepa - Researcher, CADS Te Ātea Marinō, Waitemata DHB
- Professor Reginald Marsh - Psychometrician/Statistician, University of Auckland
- Dr Janie Sheridan - Associate Professor of Pharmacy Practice, Faculty of Medical and Health Sciences, University of Auckland
- Tamasailau Suaalii-Sauni - Pacific Researcher, CRRC, Waitemata DHB
- Amanda Wheeler - CoDirector, Clinical Research and Resource Centre, Waitemata DHB

Funding for the project

The Alcoholic Liquor Advisory Council's (ALAC) have made a substantial grant available to... "Develop, modify and test a tool or range of tools that will effectively

- Screen young people experiencing and/or at serious risk of substance use harm to assist in referral to appropriate agency
- Measure change in outcome(s) during and at the end of a treatment process
- Work for young people in New Zealand - including Māori, Pacific and Pakeha young people"

Waitemata DHB in collaboration with the University of Auckland have made a successful bid for this grant. We propose to develop and test a substance use screening and outcome measurement instrument called the Substances and Choices Scale (or SACS.) To follow is information about the proposed research project and how it will be conducted.

Background Information

The needs of young people with substance use problems in NZ are poorly met. One way to improve the delivery of effective substance use treatment to young people attending treatment services in New Zealand is by using screening and outcome measurement instruments. The regular use of an AOD instrument in the day to day assessment and treatment of clients in health, mental health and AOD services is likely to raise awareness of substance use problems for clinicians and increase the focus on AOD treatment.

In the near future the Ministry of Health plans to implement outcome measurement across all mental health services nationwide. For youth services, the Strengths and Difficulties Questionnaire (SDQ), a consumer rated tool that measures psychiatric and psychosocial functioning in adolescents has been recommended. One weakness of the SDQ is that it does not include questions about substance use or misuse, a key aspect when measuring health outcomes in young people.

One solution to this omission could be to utilise an existing substance use screening and outcome measurement tool in conjunction with the SDQ. Unfortunately few existing instruments will be acceptable to services in New Zealand for a number of reasons. Their cost is likely to be an unacceptable barrier to implementation and will act as a deterrent to their use. The instruments are too long, making routine use difficult. No existing instruments have a similar layout or format to the SDQ and thus may be unnecessarily repetitive. None of the instruments have been validated for use cross-culturally in New Zealand.

To address this problem the investigation team proposes to develop a new consumer-rated instrument that can be used in conjunction with the SDQ. Called the **SACS** (Substances and Choices Scale), it will be a self completed, youth-appropriate, reliable and valid instrument. It will be used to screen for substance use difficulties and measure outcome of treatment.

Methodology

SACS Development - Stage 1

Design and development of preliminary instrument items (PrelimSACS) and gain early information about their acceptability and discrimination qualities.

- Stage 1a - Consultation with youth workers in the mental health and substance use treatment field. Feedback will be sought with regard to what they seek/desire from a substance use screening and outcome measurement tool.
- Stage 1a - Consultation with young people who are in treatment. The preliminary instrument (PrelimSACS) will be administered with young people from Waitemata AOD services (including Māori and Pacific Nation youth). Individual feedback with regard to its face validity and acceptability will be sought.
- Stage 1b – Pilot of the PrelimSACS in a community (and clinical) population. Local colleges will be approached and consenting pupils will complete the PrelimSACS. Discriminant function testing of their responses will be carried out. This process may need to be repeated on two further occasions to assist in determining the optimum combination of items for inclusion in the SACS. In addition some participants from services may be required also.
- The final make up and layout of the SACS will be decided upon and a report prepared for this stage of the study.

SACS Testing - Stage 2

Testing of the validity and reliability of SACS in a clinical population (Stage 2a) and community population.

- Stage 2a - Young people attending Waitemata Youth AOD services (including Māori and Pacific services) will be recruited in the course of their treatment and asked to complete the SACS on three occasions, approximately 4 weeks apart. They will complete the SACS in conjunction with the Strengths and Difficulties Questionnaire (SDQ) and a comparable adolescent substance use screening instrument (control instrument) on the first occasion and the SACS only thereafter.
- Stage 2b - Local colleges will be approached by a researcher and consenting participants will be asked to complete the SACS and additional instruments (see above) on one occasion and then the SACS only three weeks later.

Statistical analysis

Validity

- Congruent validity coefficients will be obtained from the SACS, a control instrument and clinicians' judgements.
- Receiver Operating Characteristics (ROC) Curves will be constructed to test specificity and sensitivity.
- Data from comparison groups of Māori and Pacific Island participants will be compared.

Reliability

- A Factor Analysis will be carried out to establish the questionnaire's trait structure.
- Internal Consistency Coefficients will be calculated using Cronbach's Alpha.
- Stability Coefficients will be derived from test and retest data. Tests of significance of difference with ANOVA and t tests on scores from repeated application of the SACS.

Our vision

- The SACS will become an integral part of youth AOD and mental health service delivery
- Its routine use will raise awareness of substance use problems in services and in the community
- Its use will improve the delivery of AOD services to youth in different types of service
- It will be used in other parts of the health sector and community including primary care and schools

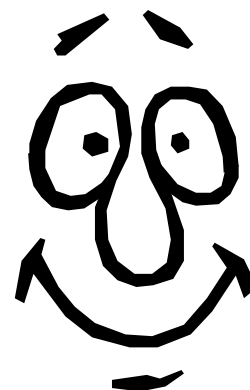
Any further questions or comments are welcomed. Please contact Dr Grant Christie

Email grant.christie@waitematadhb.govt.nz

Appendix 12. SACS study 5 participant information sheet

~PARTICIPANT INFORMATION SHEET~

Can you help? Hi. We are a team of health workers who are researching in the area of young people and substance use difficulties. We are designing a questionnaire called the SACS to be used to measure drug and alcohol problems in young people. When it is finished it will be able to be used to help young people access help for substance use problems and monitor their progress when they are in treatment. We need volunteers to take part in a study to help us design the SACS. We need the help of all sorts of young people, even those who don't take any alcohol and or drugs.



What do you have to do? All you have to do is complete the new questionnaire that we are designing and then talk to a researcher about it. The researcher will have a number of questions to ask which will take about 30 mins. The researcher will take notes on what you say. The researcher will be taking notes on what you think of the questions rather than how you answered the questions.



Do you have to? The study is **voluntary**. This means that you **do not have to participate** if you don't want to. Whether or not you agree to take part will not affect the treatment that you receive.

Will anyone know you are involved? The study is **confidential**. The scores of your questionnaire will be de-identified (names removed), added to all the other participants' scores and analysed. This means that when the results of the study come out **no one will know that you were involved**. Your actual questionnaire will be returned to your clinical file to help with planning your treatment.

Are there any risks? If you find the questionnaire too hard or upsetting, **you are allowed to stop it**. Your clinician can talk about any strong feelings you might have at the time you are completing it. Below we have listed alternative places you can access help if you are unable to do this through your clinician. You can also contact the

research team and our contact numbers are below.

What are the benefits? Your input will help us perfect the SACS so that it is an effective questionnaire that is suitable for young people. Hopefully the SACS will be able to be used in the future to help a range of young people with concerns about their substance use. If you would like to know what we eventually find then you can indicate this on the consent form or contact us at the address below and we will send you a **summary of the findings**.

Consent .You have a week to consider if you want to participate in the study. If you agree you will be asked to sign a consent form. This states that you have considered the information provided in the information sheet and agree to be a participant. Please call the number below if you or your family have any questions about the study.

What are your rights? If you have any queries or concerns regarding your rights as a participant in this study, you may wish to contact a Health & Disability Advocate, telephone 0800 555 050.

ACC Cover In the unlikely event of a physical injury as a result of your participation in this study, you will be covered by the accident compensation legislation within its limitations. Please see below for further information about this.

Thanks for considering this proposal



Ghost-ONE, copyright 1994 Susan Farrel. Artcrimes.

This study has received ethical approval from the Auckland Ethics Committee.

Principal Investigator - Dr Grant Christie,
Altered High - 316 Richmond Road,
Grey Lynn, Auckland
Ph 093616858, Fax 093605818
Email – grant.christie@Waitematadhb.govt.nz

Tuhakia Keepa, Researcher, CADS Te Ātea Marinō,
Waitemata DHB.
09 441 8969 ext. 4852
Email – tuhakia.keepa@waitematadhb.govt.nz

Kathleen (Ata) Samu, Pacific Researcher, CRRC,
Waitemata DHB
09 815 5830 ext. 5091
Email – kathleen.samu@waitemata.govt.nz

Christel Le Brun, Lead Clinical Researcher, CRRC,
Waitemata DHB.
09 815 5830 ext. 5010
Email – christel.lebrun@waitematadhb.govt.nz

ACC Cover - In the unlikely event of a physical injury as a result of your participation in this study, you may be covered under the Injury Prevention, Rehabilitation and Compensation Act. ACC cover is not automatic and your case will need to be assessed by ACC according to the provisions of the 2002 Injury Prevention Rehabilitation and Compensation Act. If your claim is accepted by ACC, you still might not get any compensation. This depends on a number of factors such as whether you are an earner or non-earner. ACC usually provides only partial reimbursement of costs and expenditure and there may be no lump sum compensation payable. There is no cover for mental injury unless it is the result of physical Injury. If you have ACC cover, generally this will affect your right to sue the investigators. If you have any questions about ACC, contact your nearest ACC office or the investigator.

Appendix 13. SACS study 5 Parent information sheet

~INFORMATION SHEET FOR PARENTS/GUARDIANS~

We are a team of health workers who are doing research with young people that have **difficulties associated with alcohol and drug use**. We are designing a questionnaire to be used to screen for drug and alcohol problems and monitor the progress of young people in treatment.

What is it about? – We are inviting young people to take part in a study to test the new questionnaire out and makes sure that it does its job reliably. Even young people who don't take alcohol and or drugs are included because we need to test the scale across a wide range of young people. For those who choose to participate the process will involve about one hour of their time. Participants will be asked to fill out the newly designed questionnaire (called the SACS) and then discuss what they thought of the questionnaire with a researcher. This will tell us if the new questionnaire (SACS) works and will inform us how to use it best in the future.

Voluntary and confidential - The study is **voluntary**. This means that **your young person does not have to take part** if he or she doesn't want to. **The study is also confidential**. Any information the participants provide will be de-identified and there will be no way of knowing they were involved. Once the data has been collected, the questionnaire will be kept in the young person's clinical file. We ask that parents do not supervise participants when they complete the research. This is because alcohol and drug use is a subject that young people can often find difficult to be honest about (especially with parents.)

Is it difficult or upsetting? - The questionnaire asks for **not true/ somewhat true/ definitely true** answers on a range of subjects and lasts ten minutes. None of these questions are intended to be upsetting for those completing the questionnaire. However if they are, then the participants are **allowed to stop** and will be encouraged to ask their clinician for help. Listed below are means to contact the research team and alternative places to seek help.

How will it help? - When the development stage of the SACS finishes we will then test and validate it. The completed and validated questionnaire will be used to help young New Zealanders who have alcohol and drug use problems in the future. The questionnaire may make your young person think about their alcohol and drug use in a deeper way and may spur them to seeking help if it they have any concerns of their own.

Consent – Your young person will have a week to consider if they want to participate in the study. If they agree they will be asked to sign a consent form. This simply states that they have considered the information provided in the information sheet and agree to be a participant. Please call the number below if the family has any questions about the study.

What are your rights? – If your young person has any queries or concerns regarding their rights as a participant in this study, they may wish to contact a Health & Disability Advocate, telephone 0800 555 050.

ACC Cover – In the unlikely event of a physical injury as a result of participation in this study, your young person will be covered by the accident compensation legislation within its limitations. Please see below for further information about this.

If your young person is under 16 years old and you do not want him or her to be involved in the study that is fine. Please ask your young person to decline to consent and/or contact his or her clinician or the researcher below to inform us about this.

Thank you very much for your help.

This study has received ethical approval from the Auckland Ethics Committee.

To talk to an alcohol and drug counsellor	CADS 845 1818
For urgent mental health services call	CRISIS 24 hour service 0800 800 717
Other numbers that might be useful	YOUTHLINE 0800 376 633
	LIFELINE 0800 111 777

Principal Investigator - Dr Grant Christie,
CADS Youth Service - Altered High
316 Richmond Road, Grey Lynn, Auckland
Ph 093616858, Fax 093605818
Email – grant.christie@Waitematadhb.govt.nz

Tuhakia Keepa, Researcher,
CADS Te Ātea Marinō, Waitemata DHB.
09 441 8969 ext. 4852
Email – tuhakia.keepa@waitematadhb.govt.nz

Kathleen (Ata) Samu, Pacific Researcher,
CRRC, Waitemata DHB.
09 815 5830 ext. 5091
Email – kathleen.samu@waitemata.govt.nz

Christel Le Brun, Lead Clinical Researcher,
CRRC, Waitemata DHB
09 815 5830 ext. 5010
Email – christel.lebrun@waitematadhb.govt.nz

ACC Cover - In the unlikely event of a physical injury as a result of your young person's participation in this study, they may be covered under the Injury Prevention, Rehabilitation and Compensation Act. ACC cover is not automatic and the case will need to be assessed by ACC according to the provisions of the 2002 Injury Prevention Rehabilitation and Compensation Act. If a claim is accepted by ACC, it still might not lead to compensation. This depends on a number of factors such as whether they are an earner or non-earner. ACC usually provides only partial reimbursement of costs and expenditure and there may be no lump sum compensation payable. There is no cover for mental injury unless it is the result of physical injury. If you have ACC cover, generally this affects your right to sue the investigators. If you have any questions about ACC, contact your nearest ACC office or the investigator.

Appendix 14. SACS Study 5 client feedback record

Development and Testing of the SACS - The Substances and Choices Scale

Client feedback record and prompts for researchers to work from

Introduction

I'm part of The SACS Investigation Team. We are a group of workers from Waitemata District Health Board and the University of Auckland. We are developing a free of charge youth alcohol and other drug (AOD) screening and outcome measurement instrument. Called the SACS (Substances and Choices Scale), it is basically a questionnaire that will be used to measure and keep track of alcohol and drug use difficulties in young people. We plan to design it in such a way that it can be used easily with another questionnaire called the Strengths and Difficulties Questionnaire (SDQ). It will be used in Youth AOD and mental health services for young people like yourselves who are in treatment.

About the scale and why we need your help

We are currently in the first stage of designing the questions (items) that will go into the scale. We propose to use a combination of

- research findings
- feedback from youth workers (like your clinician here)
- feedback from young people like you

All these things will help us decide what questions go into the questionnaire. Research or checking out what other people have found around the world is very important in deciding the content of the questions. But feedback is also very important, and you, as a young person, will be helping us decide the best way to ask the questions.

Substance use of one kind or another is pretty common among young people. It is important to be able to differentiate between young people who are getting into difficulties with their substance use (or are at risk of difficulties in the future) and those who are not. That is what we hope the Substances and Choices Scale will be able to do when we have finished designing it.

So to recap, we are designing a bunch of questions that will be printed on a sheet of paper. A young person who is coming to a service like this will then fill out their answers to these questions. Later, analysis of their answers will hopefully reveal useful information about their substance use and help with keeping track of any changes or progress that they make.

So today we are going to do three things:

Firstly we will give you a copy of the Participant Information Sheet. You would have already received one of these, but we want to ask your opinion about it.

Secondly, we will provide you with a preliminary version of the SACS (PRELIMSACS) and ask you to complete it.

Finally, we will ask for your feedback about the PRELIMSACS and comments about it, firstly in general and then question by question. This is important as we need to know if the questions are easily understandable and relevant. We also need to know if the questions are measuring what we want them to measure.

Feedback Reference No: **Altered High Participant No:**.....

Te Ātea Marinō Participant No:.....

Tupu Participant No:.....

Date:.....

Age:.....

Ethnicity.....

Gender.....

Questions relating to Participant Information Sheet

PI.1. Any comments to make about the information sheet?

Researcher Observations:

How long did the participant take to complete the PrelimSACS?

Any observations about the participant while completing the PrelimSACS?

Interview

G. 1. What are your first thoughts of the questionnaire?

Section one.

Specifically regarding question one about the frequency of substance use....

The following questions are about **substances** that you might have taken. **Substances** include alcohol and any other drug that is not being prescribed for you by a doctor.

If you didn't use any substances over the last month, skip questions 1, 2 and 3 and go on to question 4.

1. On how many times did you use each of the following substances in the last month?

<i>- Tick one box on each row that best describes your use for each substance</i>		Didn't use at all	Used once or twice	Used once a week or less	Used more than once a week	Used every day or more
A	Alcoholic drinks (e.g. beer, wine, spirits)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B	Cannabis (e.g. weed, marijuana, pot, skunk)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C	Amphetamines (e.g. speed, 'p', 'ice', whiz)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D	Cocaine (e.g. coke, crack, blow)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E	Ecstasy and other party drugs (e.g. 'E', mdma, GHB)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F	Hallucinogens (e.g. LSD, acid, mushrooms)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
G	Inhalants (e.g. glue, petrol, solvents)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
H	Opiates (e.g. heroin, morphine, methadone, smack)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I	Sedatives (e.g. sleeping pills, benzos, jellies, valium)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
J	Other drugs (e.g. Nitrous, herbal highs) <i>Name them here</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- 1.1. What do you like about this question?
- 1.2. What don't you like?
- 1.3. What do you think about the way it is laid out?
- 1.4. How might you change it?
- 1.5. Did you understand the words used to describe substances?

Section two.

Specifically regarding questions two and three....

2. In the last month, which one of the above substances did you use the most? - Mark A, B, C etc corresponding to the list in Question 1

3. In the last month when you used this substance, did you usually take	a small amount to see what it was like	just enough to help you relax and feel good	just enough to get out of it (drunk, stoned, high etc)	so much you got totally wasted (smashed, coma'ed etc)
- Mark the one box that fits best	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- 2.1. What do you like about this question?
- 2.2. What don't you like?
- 2.3. What do you think about the way it is laid out?
- 2.4. How might you change them?
- 2.5. Any other comments?

Section three.

Specifically regarding question four....

Now onto question 4, the one that has a whole lot of questions that you answered not true, somewhat true and definitely true to. The SACS questionnaire that you completed has 28 questions. Remember that when finalized, it will probably only have 10 to 15 questions. Your input now may influence which ones we keep in and which ones we leave out.

3. What do you think would be the best number of questions?

Now we will go over each question individually. I will read out the question and then we will discuss it under the following headings.

- A) Understandable? What does it mean? What is it asking?
- B) Ambiguous? Is it clear? Could it lead to confusion?
- C) Acceptable? Is this relevant? Should we be asking this? Is it offensive?

3.28. I had unsafe sex or an unwanted sexual experience when taking alcohol and or drugs. SEX

3.28a) Understandable? What does it mean? What is it asking?

3.28b) Ambiguous? Is it clear? Could it lead to confusion?

3.28c) Acceptable? Is this relevant? Should we be asking this? Is it offensive?

3.27. I drove when using alcohol or drugs or rode in a car driven by someone who had been taking alcohol or drugs.

DRIVE

3.27a) Understandable? What does it mean? What is it asking?

3.27b) Ambiguous? Is it clear? Could it lead to confusion?

3.27c) Acceptable? Is this relevant? Should we be asking this? Is it offensive?

3.26. I got into trouble when using (or because I was using) alcohol or drugs. **TROUBLE**

3.26a) Understandable? What does it mean? What is it asking?

3.26b) Ambiguous? Is it clear? Could it lead to confusion?

3.26c) Acceptable? Is this relevant? Should we be asking this? Is it offensive?

3.25. I broke the law (stealing, vandalism, assaults etc) when taking alcohol or drugs. **LEGAL**

3.25a) Understandable? What does it mean? What is it asking?

3.25b) Ambiguous? Is it clear? Could it lead to confusion?

3.25c) Acceptable? Is this relevant? Should we be asking this? Is it offensive?

3.24. I took risks that could have led to a serious injury when I used alcohol or drugs. **RISKS**

3.24a) Understandable? What does it mean? What is it asking?

3.24b) Ambiguous? Is it clear? Could it lead to confusion?

3.24c) Acceptable? Is this relevant? Should we be asking this? Is it offensive?

3.23. I took so much alcohol or drugs that I blacked out or had memory loss. **BLACKOUT**

3.23a) Understandable? What does it mean? What is it asking?

3.23b) Ambiguous? Is it clear? Could it lead to confusion?

3.23c) Acceptable? Is this relevant? Should we be asking this? Is it offensive?

3.22. I attended school (or work) while under the influence of alcohol or drugs. **ATTEND**

3.22a) Understandable? What does it mean? What is it asking?

3.22b) Ambiguous? Is it clear? Could it lead to confusion?

3.22c) Acceptable? Is this relevant? Should we be asking this? Is it offensive?

3.21. My performance or attendance at school (or at work) was affected by my alcohol or drug use. **SCHOOL**

3.21a) Understandable? What does it mean? What is it asking?

3.21b) Ambiguous? Is it clear? Could it lead to confusion?

3.21c) Acceptable? Is this relevant? Should we be asking this? Is it offensive?

3.20. My alcohol or drug use led to arguments with my parents (or caregivers). **PARENTS**

3.20a) Understandable? What does it mean? What is it asking?

3.20b) Ambiguous? Is it clear? Could it lead to confusion?

3.20c) Acceptable? Is this relevant? Should we be asking this? Is it offensive?

3.19. My alcohol and drug use led to difficulties in my friendships. **FRIEND**

3.19a) Understandable? What does it mean? What is it asking?

3.19b) Ambiguous? Is it clear? Could it lead to confusion?

3.19c) Acceptable? Is this relevant? Should we be asking this? Is it offensive?

3.18. I had emotional difficulties (such as unhappy mood, nervousness or anxiety, paranoid thinking or strange experiences) which might be linked to my use of alcohol or drugs. **EMOTION**

3.18a) Understandable? What does it mean? What is it asking?

3.18b) Ambiguous? Is it clear? Could it lead to confusion?

3.18c) Acceptable? Is this relevant? Should we be asking this? Is it offensive?

3.17. I had physical health problems because of my use of alcohol or drugs. **HEALTH**

3.17a) Understandable? What does it mean? What is it asking?

3.17b) Ambiguous? Is it clear? Could it lead to confusion?

3.17c) Acceptable? Is this relevant? Should we be asking this? Is it offensive?

3.16. My alcohol or drug use prevented me doing other things that I had planned. **MISSOUT**

3.16a) Understandable? What does it mean? What is it asking?

3.16b) Ambiguous? Is it clear? Could it lead to confusion?

3.16c) Acceptable? Is this relevant? Should we be asking this? Is it offensive?

3.15. I took more alcohol or drugs than I intended to. **INTEND**

3.15a) Understandable? What does it mean? What is it asking?

3.15b) Ambiguous? Is it clear? Could it lead to confusion?

3.15c) Acceptable? Is this relevant? Should we be asking this? Is it offensive?

3.14. I often wished that I could cut down on the amount of alcohol and drugs that I was taking. **CUTDOWN**

3.14a) Understandable? What does it mean? What is it asking?

3.14b) Ambiguous? Is it clear? Could it lead to confusion?

3.14c) Acceptable? Is this relevant? Should we be asking this? Is it offensive?

3.13. I found it difficult to stop taking alcohol or drugs once I had started. **CANTSTOP**

3.13a) Understandable? What does it mean? What is it asking?

3.13b) Ambiguous? Is it clear? Could it lead to confusion?

3.13c) Acceptable? Is this relevant? Should we be asking this? Is it offensive?

3.12. Most of my free time was spent getting hold of, or taking, alcohol or drugs. **FREETIME**

3.12a) Understandable? What does it mean? What is it asking?

3.12b) Ambiguous? Is it clear? Could it lead to confusion?

3.12c) Acceptable? Is this relevant? Should we be asking this? Is it offensive?

3.11. I spent any spare money I had on alcohol or drugs. **MONEY**

3.11a) Understandable? What does it mean? What is it asking?

3.11b) Ambiguous? Is it clear? Could it lead to confusion?

3.11c) Acceptable? Is this relevant? Should we be asking this? Is it offensive?

3.10. I needed more and more alcohol or drugs to get the same effect. **TOLERANCE**

3.10a) Understandable? What does it mean? What is it asking?

3.10b) Ambiguous? Is it clear? Could it lead to confusion?

3.10c) Acceptable? Is this relevant? Should we be asking this? Is it offensive?

3.9. I worried that I might be hooked or addicted to alcohol or drugs. **HOOKED**

3.9a) Understandable? What does it mean? What is it asking?

3.9b) Ambiguous? Is it clear? Could it lead to confusion?

3.9c) Acceptable? Is this relevant? Should we be asking this? Is it offensive?

3.8. I got withdrawal symptoms (such as sweating, headaches, feeling sick or shaking) when I cut down my use of alcohol or drugs. **WTHDRAW**

3.8a) Understandable? What does it mean? What is it asking?

3.8b) Ambiguous? Is it clear? Could it lead to confusion?

3.8c) Acceptable? Is this relevant? Should we be asking this? Is it offensive?

3.7. I felt bad or guilty about my alcohol or drug use. **GUILT**

3.7a) Understandable? What does it mean? What is it asking?

3.7b) Ambiguous? Is it clear? Could it lead to confusion?

3.7c) Acceptable? Is this relevant? Should we be asking this? Is it offensive?

3.6. I was not at all concerned about my alcohol and drug use. CONCERN

3.6a) Understandable? What does it mean? What is it asking?

3.6b) Ambiguous? Is it clear? Could it lead to confusion?

3.6c) Acceptable? Is this relevant? Should we be asking this? Is it offensive?

3.5. I hung out or had strong cravings to use alcohol or drugs. CRAVE

3.5a) Understandable? What does it mean? What is it asking?

3.5b) Ambiguous? Is it clear? Could it lead to confusion?

3.5c) Acceptable? Is this relevant? Should we be asking this? Is it offensive?

3.4. I found it hard to resist taking drugs or alcohol when they were available. RESIST

3.4a) Understandable? What does it mean? What is it asking?

3.4b) Ambiguous? Is it clear? Could it lead to confusion?

3.4c) Acceptable? Is this relevant? Should we be asking this? Is it offensive?

3.3. I was in control of my alcohol or drug use. CONTROL

3.3a) Understandable? What does it mean? What is it asking?

3.3b) Ambiguous? Is it clear? Could it lead to confusion?

3.3c) Acceptable? Is this relevant? Should we be asking this? Is it offensive?

3.2. I took alcohol or drugs when I was alone. ALONE

3.2a) Understandable? What does it mean? What is it asking?

3.2b) Ambiguous? Is it clear? Could it lead to confusion?

3.2c) Acceptable? Is this relevant? Should we be asking this? Is it offensive?

3.1. Other people have been concerned about my alcohol or drug use. OTHER CONCERN

3.1a) Understandable? What does it mean? What is it asking?

3.1b) Ambiguous? Is it clear? Could it lead to confusion?

3.1c) Acceptable? Is this relevant? Should we be asking this? Is it offensive?

Now we are getting near the end of this exercise.

I would now like you to think about all the things that we have discussed and consider PRELIMSACS as a whole.

G.2. Have we missed out anything that is important?

G.3. Are there any further questions that you think we should include, or should we be asking about anything else?

G.4. Is there anything else you want to say?

Appendix 15. SACS study 5 Researcher protocol

Development and Testing of the SACS – The Substances and Choices Scale **Protocol - WDHB Client Feedback**

Researchers

- Tuhakia Keepa, Researcher, CADS Te Ātea Marinō, Waitemata DHB
- Kathleen (Ata) Samu, Pacific Researcher, CRRC, Waitemata DHB
- Christel Le Brun, Lead Clinical Researcher, CRRC, Waitemata DHB

Feedback

Consultation with young people including Māori and Pacific young people will be carried out via Altered High, Te Ātea Marinō and Tupu. This will take the form of individual feedback.

Participant Criteria

Participants will be assessed by the researcher and attending clinician, to determine if they meet criteria to complete PRELIMSACS feedback interview as detailed below:

- Participant is within 13 to 18 years of age when completing PRELIMSACS feedback.
- The young person is a current client of Altered High, Te Ātea Marinō or Tupu.
- The young person's parent(s)/guardian(s) have involvement in the young person's treatment.
- Participant is able to complete the questionnaire without the assistance of their clinician and/or an interpreter.
- Participant is not displaying active and severe symptoms of mental illness such as that might interfere with their ability to complete the questionnaire.
- The participant is not intoxicated.

Pre-interview participant information

Provision of written information to potential participants and their parents need to occur at least 1 week prior to them consenting for the study. Relevant documents to be issued:

- Part 1a – Development – Feedback, Participant Information Sheet
- Part 1a – Development – Feedback, Information Sheet for Parent/Guardians

Information and consent

Potential participants need to be briefed about the process in detail prior to providing written consent. This is an opportunity to clarify any concerns the participant might have. The following should be included in the briefing:

- An explanation to the participant of what the study is about.
- Explain the practical aspects of what will be required of them.
- That the purpose of the exercise is to obtain their opinion about the items in the questionnaire and that we are not concerned with their actual answers to the questions.
- Explain voluntary participation and issues around confidentiality.

If the participant wishes to proceed the researcher will then obtain written consent.

If consent is declined, the interview will be terminated immediately.

Data collection

Following signed consent the researcher will follow the format of the 'client feedback record' document which includes the following tasks;

- Explanation of what will follow and opportunity to ask questions about the process.
- Provide participant with the PRELIMSACS and ask the participant to complete it without clinician or researcher assistance.
- Following the format of the 'client feedback record' document the researcher is to seek feedback and comments from the participant and record the responses in the appropriate spaces available on the document.

Confidentiality and Storage of raw data

The participant will be given the option of what happens with the completed PRELIMSACS as follows:

- The PRELIMSACS stored in the participant's clinical file; the recommended option.
- Participant takes the PRELIMSACS away with them.
- We destroy the PRELIMSACS on behalf of the participant i.e. via shredder or confidential document bin.

Notes that the researcher takes on the 'client feedback record' is returned to Christel Le Brun. There will be no identification of participants on this record but this document will be kept as per the ethics guideline

Appendix 16. SACS study 5 'non-consumer' feedback stage

Development and Testing of the SACS - The Substances and Choices Scale

Non Consumer feedback record and prompts for researchers to work from

Introduction

I'm part of The SACS Investigation Team. We are a group of workers from Waitemata District Health Board and the University of Auckland. We are developing a free of charge youth alcohol and other drug (AOD) screening and outcome measurement instrument. Called the SACS (Substances and Choices Scale), it is basically a questionnaire that will be used to measure and keep track of alcohol and drug use difficulties in young people. We plan to design it in such a way that it can be used easily with another questionnaire called the Strengths and Difficulties Questionnaire (SDQ). It will be used in Youth AOD and mental health services.

About the scale and why we need your help

We are currently in the first stage of designing the questions (items) that will go into the scale. We propose to use a combination of

- research findings
- feedback from youth workers
- feedback from young people like you

All these things will help us decide what questions go into the questionnaire. Research or checking out what other people have found around the world is very important in deciding the content of the questions. But feedback is also very important, and you, as a young person, will be helping us decide the best way to ask the questions.

Substance use of one kind or another is pretty common among young people. It is important to be able to differentiate between young people who are getting into difficulties with their substance use (or are at risk of difficulties in the future) and those who are not. That is what we hope the Substances and Choices Scale will be able to do when we have finished designing it.

So to recap, we are designing a bunch of questions that will be printed on a sheet of paper. A young person who is attending a mental health or AOD service will fill out their answers to these questions. Later, analysis of their answers will hopefully reveal useful information about their substance use and help with keeping track of any changes or progress that they make.

So today we are going to do three things:

Firstly we will give you a copy of the Participant Information Sheet and we want to ask your opinion about it.

Secondly, we will provide you with the PenultimateSACS and ask that you complete the questionnaire. We will ask you for your feedback about the PenultimateSACS. We would like to know if the questions are easily understandable and relevant. We also need to know if the questions are measuring what we want them to measure.

Lastly we will provide you with a copy of PenultimateSACScom. This is a questionnaire, based on the one you will have completed, is targeted for the general youth community, rather than

those young people who are in treatment. We would like your feedback about this community version of the PenultimateSACS.

Feedback Reference No:.....

Date:.....

Age:.....

Age:.....

Age:.....

Ethnicity.....

Ethnicity.....

Ethnicity.....

Gender.....

Gender.....

Gender.....

Age:.....

Age:.....

Age:.....

Ethnicity.....

Ethnicity.....

Ethnicity.....

Gender.....

Gender.....

Gender.....

Age:.....

Age:.....

Age:.....

Ethnicity.....

Ethnicity.....

Ethnicity.....

Gender.....

Gender.....

Gender.....

Age:.....

Age:.....

Age:.....

Ethnicity.....

Ethnicity.....

Ethnicity.....

Gender.....

Gender.....

Gender.....

Questions relating to Participant Information Sheet

PI. 1. Any comments to make about the information sheet?

Researcher Observations:

How long did the participants take to complete the PenultimateSACS?

Any observations about the participant while completing the PenultimateSACS?

Interview

G. 1. What are your first thoughts of the questionnaire?

Section one.

Specifically regarding question 'A' about the frequency of substance use....

The following questions are about **substances** that you might have taken. **Substances** include alcohol **and** any other drug that is not being prescribed for you by a health professional. If you didn't use any substances over the last month, skip questions A, B and C and go on to question D.

A) On how many times did you use each of the following substances in the last month?		Didn't use at all	Used once a week or less	Used more than once a week	Used most days or more
<i>- Tick one box on each row that best describes your use for each substance</i>					
1	Alcoholic drinks (e.g. beer, wine, spirits)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	Cannabis (e.g. weed, marijuana, pot, skunk)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Tobacco (e.g. cigarettes, cigars etc)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	Amphetamines (e.g. speed, 'P', ice, whiz, goee)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	Cocaine (e.g. coke, crack, blow)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	Ecstasy and other party drugs (e.g. 'E', GHB)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	Hallucinogens (e.g. LSD, acid, mushies)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	Inhalants (e.g. glue, petrol, solvents)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9	Opiates (e.g. morphine, methadone, mistys)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10	Sedatives (e.g. sleeping pills, benzos, valium)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11	Other drug <i>Name</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12	Other drug <i>Name</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13	Other drug <i>Name</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

1.1. What do you like about this question?

1.2. What don't you like?

1.3. What do you think about the way it is laid out?

1.4. How might you change it?

1.5. Did you understand the words used to describe substances?

1.6. What do you think about the categories used i.e. used once or twice?

1.7. Any other comments?

Section two.

Specifically regarding questions 'B' and 'C'...

B) Which substances in question A caused you the most difficulties?	Write a number from the list above (1 or 2 or 3 etc) in this box. Leave blank if the question doesn't apply.		<input type="checkbox"/>
C) In the last month when you used this substance, did you usually take... - Tick the one box that fits best or leave blank if the question doesn't apply.	A small/moderate amount	(Enough to make you relax and feel good)	<input type="checkbox"/>
	A large amount	(Enough to get out of it - drunk, stoned, high etc)	<input type="checkbox"/>
	A very large amount	(Enough to get wasted - smashed, coma'ed etc)	<input type="checkbox"/>

2.1. What do you like about this question?

2.2 What don't you like?

2.3. What do you think about the way it is laid out?

2.4. How might you change them?

2.5. What do you think about the categories used?

2.6. Any other comments?

Section three.

Specifically regarding question 'D'....

Now onto question 'D', the one that has a whole lot of questions that you answered not true, somewhat true and definitely true to.

3. What do you think would be the best number of questions?

Now we will go over each question individually. I will read out the question and we are looking for feedback on the questions being understandable, clear and relevant.

In the last month ...

-
- | | |
|-------|---|
| 1 | Other people have been concerned about my alcohol or drug use. |
| <hr/> | |
| 2 | I took alcohol or drugs when I was alone. |
| <hr/> | |
| 3 | My alcohol or drug use has been under control. |
| <hr/> | |
| 4 | I've 'hung out' or had strong cravings to use alcohol or drugs. |
| <hr/> | |
| 5 | I've thought I might be hooked or addicted to alcohol or drugs. |
| <hr/> | |
| 6 | Most of my free time has been spent getting hold of, taking or recovering from alcohol or drugs. |
| <hr/> | |
| 7 | I've wanted to cut down on the amount of alcohol and drugs that I am using. |
| <hr/> | |
| 8 | My alcohol and drug use has stopped me getting other things done. |
| <hr/> | |
| 9 | I've had emotional difficulties (such as sadness, anxiety, paranoid thinking or strange experiences) because of my alcohol or drug use. |
| <hr/> | |
| 10 | My alcohol or drug use has led to arguments with my parents (or caregivers). |
| <hr/> | |
| 11 | My performance or attendance at school (or at work) has been affected by my alcohol or drug use |
| <hr/> | |
| 12 | Sometimes I took so much alcohol or drugs, I couldn't remember what I had done. |
| <hr/> | |
| 13 | I broke the law (stealing, vandalism etc), or got into serious trouble, when using alcohol or drugs. |
| <hr/> | |
| 14 | I drove a car (or took other risks that could have led to physical injury) while under the influence of alcohol or drugs. |
| <hr/> | |
| 15 | I've had unsafe sex or an unwanted sexual experience when taking alcohol or drugs. |
-

Now we are getting near the end of this exercise.

I would now like you to think about all the things that we have discussed and consider PrenultimateSACS as a whole.

G.2. Have we missed out anything that is important?

G. 3. Are there any further questions that you think we should include, or should we be asking about anything else?

G.4. Is there anything else you want to say?

PenultimateSACScm - The only change to the PenultimateSACScm compared to the PenultimateSACS that you have just completed and given feedback on is the amount of substances listed in question 'A'. The PenultimateSACScm is designed for young people to complete who are in typical community settings, e.g. schools, rather than those young people who are in treatment.

The following questions are about **substances** that you might have taken. **Substances** include alcohol **and** any other drug that is not being prescribed for you by a health professional. If you didn't use any substances over the last month, skip questions A, B and C and go on to question D.

A) On how many times did you use each of the following substances in the last month?					
<i>- Tick one box on each row that best describes your use for each substance</i>		Didn't use at all	Used once a week or less	Used more than once a week	Used most days or more
1	Alcoholic drinks (e.g. beer, wine, spirits)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	Cannabis (e.g. weed, marijuana, pot, skunk)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Tobacco (e.g. cigarettes, cigars etc)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11	Other drug <i>Name</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12	Other drug <i>Name</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13	Other drug <i>Name</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Pcom1. What do you like about this question?

Pcom2. What don't you like?

Pcom3. Is there anything you would change?

Pcom4. Any further comments?

Appendix 17. SACS study 5, 6 & 7 Consent Form

~CONSENT FORM~

Please tick the boxes

- | | | |
|---|------------------------------|--------------------------------|
| ➤ I wish to have an interpreter | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| ➤ E hiahia ana ahau ki tetahi Kaiwhakamaori/kaiwhaka pakeha korero | Ae <input type="checkbox"/> | Kao <input type="checkbox"/> |
| ➤ Ou te mana'o ia I ai se fa'amatala upu | Io <input type="checkbox"/> | Leai <input type="checkbox"/> |
| ➤ Oku ou fiema'u ha fakatonulea | Io <input type="checkbox"/> | Ikai <input type="checkbox"/> |
| ➤ Ka inangaro au I tetai tangata uri reo | Ae <input type="checkbox"/> | Kare <input type="checkbox"/> |
| ➤ Fia manako au ke fakaaoga e taha tagata fakahokohoko kupu | E <input type="checkbox"/> | Nakai <input type="checkbox"/> |
| | | |
| ➤ I have read and I understand the attached information sheet and I have had an opportunity to discuss it. | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| | | |
| ➤ I understand that taking part in the study is my own choice. I know I can withdraw whenever I want to. | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| | | |
| ➤ I understand that my participation in this study is confidential. There will be nothing in any reports on the study that could identify me. | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| | | |
| ➤ I have had enough time to consider whether to take part in the study and I know I can contact a researcher (see the information sheet) or my clinician if I have any questions or concerns about the study. | Yes <input type="checkbox"/> | No <input type="checkbox"/> |

I consent to take part in the study.
(first name and surname)

Signature

Date

Study explained by

..on . / . / .

If you would like a written summary of the results of the study sent to you please supply your address below.

Principal Investigator - Dr Grant Christie
CADS Youth Service 'Altered High', 316 Richmond Road, Grey Lynn, Auckland
Ph 093616857, Fax 093605818, email grant.christie@waitematadhb.govt.nz

Appendix 18. SACS study 5 – Preliminary1 SACS

The following questions are about *substances* that you might have taken. **Substances** include alcohol **and** any other drug that is not being prescribed for you by a doctor.

If you didn't use any substances over the last month, skip questions 1, 2 and 3 and go on to question 4.

1. On how many times did you use each of the following substances in the last month?

- Tick **one** box on each row that best describes your use for each substance

	Didn't use at all	Used once or twice	Used once a week or less	Used more than once a week	Used every day or more
A Alcoholic drinks (e.g. beer, wine, spirits)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B Cannabis (e.g. weed, marijuana, pot, skunk)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C Amphetamines (e.g. speed, 'p', 'ice', whiz)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D Cocaine (e.g. coke, crack, blow)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E Ecstasy and other party drugs (e.g. 'E', mdma, GHB)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F Hallucinogens (e.g. LSD, acid, mushrooms)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
G Inhalants (e.g. glue, petrol, solvents)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
H Opiates (e.g. heroin, morphine, methadone, smack)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I Sedatives (e.g. sleeping pills, benzos, jellies, valium)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
J Other drugs (e.g. Nitrous, herbal highs) <i>Name them here</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. In the last month, which **one** of the above substances did you use the most?

- Mark **A, B, C** etc corresponding to the list in Question 1

3. In the last month when you used this substance, did you *usually* take...

a small amount to see what it was like

just enough to help you relax and feel good

just enough to get out of it (drunk, stoned, high etc)

so much you got totally wasted (smashed, coma'ed etc)

- Mark the **one** box that fits best

4. For the following items, please mark **one** of the three boxes, Not True, Somewhat True or Certainly True. It would help us if you answered all items as best you can even if you are not absolutely certain. Please give your answers on the basis of how things have been for you **over the last month...**

	<i>In the last month ...</i>	Not True	Somewh at True	Certainly True
1	Other people have been concerned about my alcohol or drug use.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	I took alcohol or drugs when I was alone.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	I was in control of my alcohol or drug use.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	I found it hard to resist taking drugs or alcohol when they were available.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	I hung out or had strong cravings to use alcohol or drugs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	I was not at all concerned about my alcohol and drug use.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	I felt bad or guilty about my alcohol or drug use.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	I got withdrawal symptoms (such as sweating, headaches, feeling sick or shaking) when I cut down my use of alcohol or drugs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9	I worried that I might be hooked or addicted to alcohol or drugs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10	I needed more and more alcohol or drugs to get the same effect.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11	I spent any spare money I had on alcohol or drugs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12	Most of my free time was spent getting hold of, or taking, alcohol or drugs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13	I found it difficult to stop taking alcohol or drugs once I had started.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14	I often wished that I could cut down on the amount of alcohol and drugs that I was taking.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15	I took more alcohol or drugs than I intended to.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16	My alcohol or drug use prevented me doing other things that I had planned.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17	I had physical health problems because of my use of alcohol or drugs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18	I had emotional difficulties (such as unhappy mood, nervousness or anxiety, paranoid thinking or strange experiences) which might be linked to my use of alcohol or drugs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19	My alcohol and drug use led to difficulties in my friendships.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20	My alcohol or drug use led to arguments with my parents (or caregivers).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21	My performance or attendance at school (or at work) was affected by my alcohol or drug use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22	I attended school (or work) while under the influence of alcohol or drugs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23	I took so much alcohol or drugs that I blacked out or had memory loss.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24	I took risks that could have led to a serious injury when I used alcohol or drugs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25	I broke the law (stealing, vandalism, assaults etc) when taking alcohol or drugs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26	I got into trouble when using (or because I was using) alcohol or drugs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27	I drove when using alcohol or drugs or rode in a car driven by someone who had been taking alcohol or drugs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28	I had unsafe sex or an unwanted sexual experience when taking alcohol or drugs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Appendix 19. SACS study 5 - Preliminary2 SACS

The following questions are about **substances** that you might have taken. **Substances** include alcohol **and** any other drug that is not being prescribed for you by a health professional. If you didn't use any substances over the last month, skip questions A, B and C and go on to question D.

A) On how many times did you use each of the following substances in the last month?					
<i>- Tick one box on each row that best describes your use for each substance</i>					
		Didn't use at all	Used once a week or less	Used more than once a week	Used most days or more
1	Alcoholic drinks (e.g. beer, wine, spirits)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	Cannabis (e.g. weed, marijuana, pot, skunk)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Tobacco (e.g. cigarettes, cigars etc)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11	Other drug <i>Name</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12	Other drug <i>Name</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13	Other drug <i>Name</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B) Which substances in question A caused you the most difficulties?		<i>Write a number from the list above (1 or 2 or 3 etc) in this box. Leave blank if the question doesn't apply.</i>			<input type="checkbox"/>
C) In the last month when you used this substance, did you usually take...		A small/moderate amount	(Enough to make you relax and feel good)	<input type="checkbox"/>	
<i>- Tick the one box that fits best or leave blank if the question doesn't apply.</i>		A large amount	(Enough to get out of it - drunk, stoned, high etc)	<input type="checkbox"/>	
		A very large amount	(Enough to get wasted - smashed, coma'ed etc)	<input type="checkbox"/>	
D) For the following items, please mark <u>one</u> of the three boxes, Not True, Somewhat True or Certainly True. It would help us if you answered all items as best you can even if you are not absolutely certain. Please give your answers on the basis of how things have been for you over the last month...					
	<i>In the last month ...</i>	Not True	Somewhat True	Certainly True	
1	Other people have been concerned about my alcohol or drug use.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2	I took alcohol or drugs when I was alone.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3	My alcohol or drug use has been under control.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4	I've 'hung out' or had strong cravings to use alcohol or drugs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5	I've thought I might be hooked or addicted to alcohol or drugs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6	Most of my free time has been spent getting hold of, taking or recovering from alcohol or drugs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
7	I've wanted to cut down on the amount of alcohol and drugs that I am using.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
8	My alcohol and drug use has stopped me getting other things done.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
9	I've had emotional difficulties (such as sadness, anxiety, paranoid thinking or strange experiences) because of my alcohol or drug use.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
10	My alcohol or drug use has led to arguments with my parents (or caregivers).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
11	My performance or attendance at school (or at work) has been affected by my alcohol or drug use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
12	Sometimes I took so much alcohol or drugs, I couldn't remember what I had done.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
13	I broke the law (stealing, vandalism etc), or got into serious trouble, when using alcohol or drugs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
14	I drove a car (or took other risks that could have led to physical injury) while under the influence of alcohol or drugs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
15	I've had unsafe sex or an unwanted sexual experience when taking alcohol or drugs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Appendix 20. SACS study 6 - PenultimateSACS (Community)

The following questions are about your use of **substances** (alcohol and drugs) over the **last month**. 'Substances' do not include tobacco or prescribed medicines. Please answer every question as best you can, even if you are not certain.

A) On how many times did you use each of the following substances in the last month?

Tick one box on each row that best describes Your use for each substance	Didn't use at all	Used once a week or less	Used more than once a week	Used most days or more
1. Alcoholic drinks (e.g. beer, wine, spirits)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Cannabis (e.g. weed, marijuana, pot, skunk)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Other drug Name.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Other drug Name.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Other drug Name.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

B) Which one substance from the list above caused you the most difficulties?

Write the name of the substance in the space provided (or leave blank if the question doesn't apply).....

When you used this substance, did you usually take...	A small/moderate amount?	(Enough to make you relax and feel good)	<input type="checkbox"/>
- Tick the one box that fits best (or leave blank if the question doesn't apply)	A large amount?	(Enough to get out of it – drunk, stoned, high etc)	<input type="checkbox"/>
	A very large amount?	(Enough to get wasted – smashed, coma'ed etc)	<input type="checkbox"/>

C) The following questions are about substances (alcohol and drugs). 'Substances' do not include tobacco or prescribed medicines. Please mark one of three boxes, Not True, Somewhat True or Certainly True and answer all items as best you can, even if you're not absolutely certain. Please answer on the basis of how things have been for you over the last month.

In the last month ...	Not True	Somewhat True	Certainly True
1 Other people have been concerned about my alcohol or drug use.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2 I took alcohol or drugs when I was alone.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3 I've 'hung out' or had strong cravings to use alcohol or drugs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4 I've thought I might be hooked or addicted to alcohol or drugs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5 Most of my free time has been spent getting hold of, taking, or recovering from alcohol or drugs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6 I've wanted to cut down on the amount of alcohol and drugs that I am using.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7 My alcohol and drug use has stopped me getting important things done.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8 I've had emotional difficulties (such as sadness, anxiety, paranoid thinking or strange experiences) because of my alcohol or drug use.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9 My alcohol or drug use has led to arguments with my parents (or caregivers).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10 I've had unsafe sex or an unwanted sexual experience when taking alcohol or drugs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11 My performance or attendance at school (or at work) has been affected by my alcohol or drug use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12 At times I took so much alcohol or drugs, I couldn't remember what I had done.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13 I did things that could have got me into serious trouble (stealing, vandalism, violence etc) when using alcohol or drugs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14 I have driven a car while under the influence of alcohol or drugs (or have been driven by someone who was under the influence of alcohol or drugs).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15 My alcohol or drug use has been under control.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

D) Finally, how much **tobacco** (e.g. cigarettes, cigars) have you used **over the last month?**

Didn't use at all	Used once a week or less	Used more than once a week	Used most days or more
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Appendix 21. SACS study 6 – Penultimate SACS (clinical)

The following questions are about your use of **substances** (alcohol and drugs) over the **last month**. 'Substances' do not include tobacco or prescribed medicines. Please answer every question as best you can, even if you are not certain.

A) On how many times did you use each of the following substances in the last month?

Tick one box on each row that best describes your use for each substance	Didn't use at all	Used once a week or less	Used more than once a week	Used most days or more
1. Alcoholic drinks (e.g. beer, wine, spirits)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Cannabis (e.g. weed, marijuana, pot, skunk)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Amphetamines (e.g. speed, 'P', ice, whiz, goee)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Cocaine (e.g. coke, crack, blow)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Ecstasy and other party drugs (e.g. 'E', GHB)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Hallucinogens (e.g. LSD, acid, mushrooms)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Inhalants (e.g. glue, petrol, solvents)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Opiates (e.g. morphine, methadone, mistys)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Sedatives (e.g. sleeping pills, benzos, valium)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. BZP (e.g. 'herbal highs', energy pills)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Other drug Name.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Other drug Name.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Other drug Name.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

B) Which one substance from the list above caused you the most difficulties?

Write the name of the substance in the space provided (or leave blank if the question doesn't apply).....

When you used this substance, did you usually take...

- Tick the **one** box that fits best (or leave blank if the question doesn't apply)

A small/moderate amount?

(Enough to make you relax and feel good)

A large amount?

(Enough to get out of it – drunk, stoned, high etc)

A very large amount?

(Enough to get wasted – smashed, coma'ed etc)

C) The following questions are about **substances** (alcohol and drugs). 'Substances' do not include tobacco or prescribed medicines. Please mark **one** of the three boxes, **Not True**, **Somewhat True** or **Certainly True** and answer all items as best you can, even if you are not absolutely certain. Please answer on the basis of how things have been for you **over the last month**.

In the last month ...	Not True	Somewhat True	Certainly True
1 Other people have been concerned about my alcohol or drug use.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2 I took alcohol or drugs when I was alone.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3 I've 'hung out' or had strong cravings to use alcohol or drugs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4 I've thought I might be hooked or addicted to alcohol or drugs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5 Most of my free time has been spent getting hold of, taking, or recovering from alcohol or drugs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6 I've wanted to cut down on the amount of alcohol and drugs that I am using.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7 My alcohol and drug use has stopped me getting important things done.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8 I've had emotional difficulties (such as sadness, anxiety, paranoid thinking or strange experiences) because of my alcohol or drug use.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9 My alcohol or drug use has led to arguments with my parents (or caregivers).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10 I've had unsafe sex or an unwanted sexual experience when taking alcohol or drugs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11 My performance or attendance at school (or at work) has been affected by my alcohol or drug use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12 At times I took so much alcohol or drugs, I couldn't remember what I had done.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13 I did things that could have got me into serious trouble (stealing, vandalism, violence etc) when using alcohol or drugs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14 I have driven a car while under the influence of alcohol or drugs (or have been driven by someone who was under the influence of alcohol or drugs).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15 My alcohol or drug use has been under control.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

D) Finally, how much **tobacco** (e.g. cigarettes, cigars) have you used **over the last month?**

Didn't use at all

Used once a week or less

Used more than once a week

Used most days or more

Appendix 22. SACS study 7 - Final SACS (Clinical)

The questions in part A) and B) are about your use of alcohol and drugs over the last month. This does not include tobacco or prescribed medicines. Please answer every question as best you can, even if you are not certain. Tick only one box on each row.

A) On how many times did you use each of the following in the last month?	Never	Once a week or less	More than once a week	Most days or more
1. Alcoholic drinks (e.g. beer, wine, spirits etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Cannabis (e.g. weed, marijuana, pot, skunk etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Cocaine (e.g. coke, crack, blow etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Amphetamines (e.g. speed, 'P', ice, whiz, goee etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Ecstasy and other party drugs (e.g. 'E', GHB etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Inhalants (e.g. nitrous, glue, petrol, solvents, paint etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Sedatives (e.g. sleeping pills, benzos, downers, valium etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Hallucinogens (e.g. LSD, acid, mushrooms, ketamine etc)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Opiates (e.g. heroin, morphine, methadone, codeine etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. BZP (e.g. 'herbal highs', energy pills etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Other drug. Name.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Other drug. Name.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B) Mark <u>one</u> box (on each row), on the basis of how things have been for you over the last month.	Not True	Somewhat True	Certainly True	
1. I took alcohol or drugs when I was alone.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2. I've thought I might be hooked or addicted to alcohol or drugs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3. Most of my free time has been spent getting hold of, taking, or recovering from alcohol or drugs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4. I've wanted to cut down on the amount of alcohol and drugs that I am using.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5. My alcohol and drug use has stopped me getting important things done.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
In the last month ...	Not True	Somewhat True	Certainly True	
6. My alcohol or drug use has led to arguments with the people I live with (family, flatmates or caregivers etc.).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
7. I've had unsafe sex or an unwanted sexual experience when taking alcohol or drugs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
8. My performance or attendance at school (or at work) has been affected by my alcohol or drug use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
9. I did things that could have got me into serious trouble (stealing, vandalism, violence etc) when using alcohol or drugs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
10. I've driven a car while under the influence of alcohol or drugs (or have been driven by someone under the influence).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
C) Finally, how often have you used tobacco (e.g. cigarettes, cigars) over the last month?	Never	Once a week or less	More than once a week	Most days or more
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Appendix 23. SACS Study 7 – Final SACS (community)

The questions in part A) and B) are about your use of alcohol and drugs over the last month. This does not include tobacco or prescribed medicines. Please answer every question as best you can, even if you are not certain. Tick only one box on each row.

A) On how many times did you use each of the following in the last month?	<i>Never</i>	<i>Once a week or less</i>	<i>More than once a week</i>	<i>Most days or more</i>
1. Alcoholic drinks (e.g. beer, wine, spirits etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Cannabis (e.g. weed, marijuana, pot, skunk etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Other drug. Name.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Other drug. Name.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Other drug. Name.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B) Mark one box (on each row), on the basis of how things have been for you over the last month.	<i>Not True</i>	<i>Somewhat True</i>	<i>Certainly True</i>	
1. I took alcohol or drugs when I was alone.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2. I've thought I might be hooked or addicted to alcohol or drugs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3. Most of my free time has been spent getting hold of, taking, or recovering from alcohol or drugs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4. I've wanted to cut down on the amount of alcohol and drugs that I am using.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5. My alcohol and drug use has stopped me getting important things done.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
in the last month ...	<i>Not True</i>	<i>Somewhat True</i>	<i>Certainly True</i>	
6. My alcohol or drug use has led to arguments with the people I live with (family, flatmates or caregivers etc.).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
7. I've had unsafe sex or an unwanted sexual experience when taking alcohol or drugs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
8. My performance or attendance at school (or at work) has been affected by my alcohol or drug use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
9. I did things that could have got me into serious trouble (stealing, vandalism, violence etc) when using alcohol or drugs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
10. I've driven a car while under the influence of alcohol or drugs (or have been driven by someone under the influence).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

C) Finally, how often have you used tobacco (e.g. cigarettes, cigars) over the last month?	<i>Never</i>	<i>Once a week or less</i>	<i>More than once a week</i>	<i>Most days or more</i>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Appendix 24. SACS study 6 & 7 – Representative participant information sheet

Participant Information Sheet

Can you help? - Hi. We are a team of health workers who are researching in the area of young people and substance use difficulties. We are designing a questionnaire called the SACS to be used to measure drug and alcohol problems in young people. When it is finished it will be able to be used to help young people access help for substance use problems and monitor their progress when they are in treatment. We need volunteers to take part in a study to help us design the SACS. We need the help of all sorts of young people, even those who don't take any alcohol and or drugs.

What do you have to do? - All you have to do is complete the new questionnaire that we are designing. It will take about fifteen minutes of your time.

Do you have to? - The study is **voluntary**. This means that **you do not have to participate** if you don't want to.



Will anyone know you are involved? - The study is **confidential**. The scores of your questionnaire will be de-identified (names removed), added to all the other participants' scores and analysed. This means that when the results of the study come out **no one will know that you were involved**.

Are there any risks? - If you find the questionnaire too hard or upsetting, **you are allowed to stop it** and ask the researcher for help. They can also assist you to seek help if the questionnaire raises concerns for you. Over the page we have listed alternative places you can access help if you are unable to do this through the researcher, your teacher or your school guidance counsellor.

What are the benefits? - Your input will help us perfect the SACS so that it is an effective questionnaire that is suitable for young people. Hopefully the SACS will be able to be used in the future to help a range of young people with concerns about their substance use. If you would like to know what we eventually find then you can indicate this on the consent form or contact us at the address over the page and we will send you a **summary of the findings**.

Consent - You have a week to consider if you want to participate in the study. If you agree you will be asked to sign a consent form. This states that you have considered the information provided in the information sheet and agree to be a participant. Please call the number below if you or your family have any questions about the study.

What are your rights? – If you have any queries or concerns regarding your rights as a participant in this study, you may wish to contact a Health & Disability Advocate, telephone 0800 555 050.

ACC Cover – In the unlikely event of a physical injury as a result of your participation in this study, you will be covered by the accident compensation legislation within its limitations. Please see over the page for further information about this.

Thanks for considering this proposal.



Ghost-ONE, copyright 1994 Susan Farrel. Artcrimes.

This study has received ethical approval from the Auckland Ethics Committee.

To talk to an alcohol and drug counsellor
For urgent mental health services call
Other numbers that might be useful

CADS 845 1818
CRISIS 24 hour service 0800 800 717
YOUTHLINE 0800 376 633
LIFELINE 0800 111 777

Principal Investigator - Dr Grant Christie,
CADS Youth Service - Altered High, 316 Richmond Road, Grey Lynn, Auckland
Ph 093616858, Fax 093605818
Email - grant.christie@Waitematadhb.govt.nz

Kathleen (Ata) Samu, Pacific Researcher, CRRC, Waitemata DHB.
09 815 5830 ext. 5091
Email - kathleen.samu@waitemata.govt.nz

Christel Le Brun, Clinical Researcher, CRRC, Waitemata DHB
09 815 5830 ext. 5010
Email - christel.lebrun@waitematadhb.govt.nz

ACC Cover – In the unlikely event of a physical injury as a result of your participation in this study, you may be covered under the Injury Prevention, Rehabilitation and Compensation Act. ACC cover is not automatic and your case will need to be assessed by ACC according to the provisions of the 2002 Injury Prevention Rehabilitation and Compensation Act. If your claim is accepted by ACC, you still might not get any compensation. This depends on a number of factors such as whether you are an earner or non-earner. ACC usually provides only partial reimbursement of costs and expenditure and there may be no lump sum compensation payable. There is no cover for mental injury unless it is the result of physical Injury. If you have ACC cover, generally this will affect your right to sue the investigators. If you have any questions about ACC, contact your nearest ACC office or the investigator.

Appendix 25. SACS Study 6 & 7 – Representative parent information sheet ~INFORMATION SHEET FOR PARENTS/GUARDIANS~

We are a team of health workers who are doing research with young people that have **difficulties associated with alcohol and drug use**. We are designing a questionnaire to be used to screen for drug and alcohol problems and monitor the progress of young people in treatment.

What is it about? – We are asking young people to volunteer to take part in a study to test the new questionnaire out and make sure that it does its job reliably. Even young people who don't take alcohol and or drugs are included because we need to test the scale across a wide range of young people. For those who choose to participate, the process will take about fifteen minutes. They will be asked to fill out the newly designed questionnaire (called the SACS) together with an alternative questionnaire. This will help us establish if the new questionnaire (SACS) works and will inform us how to use it best in the future.

Voluntary and confidential - The study is **voluntary**. This means that **your young person does not have to fill out the questionnaire** if he or she doesn't want to. **The study is also confidential**. Any information the participants provide will be de-identified and there will be no way of knowing they were involved. We ask that parents do not supervise participants when they complete the research. This is because alcohol and drug use is a subject that young people can often find difficult to be honest about (especially with parents.)

Is it difficult or upsetting? - The questionnaire asks for **not true/ somewhat true/ definitely true** answers on a range of subjects and lasts ten minutes. None of these questions are intended to be upsetting for those completing the questionnaire. However if they are, then the participants are **allowed to stop** and will be encouraged to ask the researcher, teacher or school guidance counsellor for help. On the next page is a list of alternative places to access help if this is not possible at the time.

How will it help? - When enough questionnaires have been collected the results will be analysed. The completed and validated questionnaire will be used to help other young people who have alcohol and drug use problems in the future. The questionnaire may make your young person think about their alcohol and drug use and may spur them to seek help if they have concerns about their substance use.

Consent – Your young person will have a week to consider if they want to participate in the study. If they agree they will be asked to sign a consent form. This simply states that they have considered the information provided in the information sheet and agree to be a participant. Please call the number on the next page if the family has any questions about the study.

What are your rights? – If your young person has any queries or concerns regarding their rights as a participant in this study, they may wish to contact a Health & Disability Advocate, telephone 0800 555 050.

ACC Cover – In the unlikely event of a physical injury as a result of participation in this study, your young person will be covered by the accident compensation legislation within its limitations. Please see below for further information about this.

If your young person is under 16 years old and you do not want him or her to be involved in the study that is fine. Please ask your young person to decline to consent or contact his or her teacher, or the research team as below, to inform us about this.

Thank you very much for your help.

To talk to an alcohol and drug counsellor	CADS 845 1818
For urgent mental health services call	CRISIS 24 hour service 0800 800 717
Other numbers that might be useful	YOUTHLINE 0800 376 633
	LIFELINE 0800 111 777

This study has received ethical approval from the Auckland Ethics Committee.

Principal Investigator - Dr Grant Christie,
CADS Youth Service - Altered High
316 Richmond Road, Grey Lynn, Auckland
Ph 093616858, Fax 093605818
Email – grant.christie@Waitematadhb.govt.nz

Kathleen (Ata) Samu, Pacific Researcher, CRRRC, Waitemata DHB.
09 815 5830 ext. 5091
Email – kathleen.samu@waitemata.govt.nz

Christel Le Brun, Clinical Researcher, CRRRC, Waitemata DHB
09 815 5830 ext. 5010
Email – christel.lebrun@waitematadhb.govt.nz

ACC Cover - In the unlikely event of a physical injury as a result of your young person's participation in this study, they may be covered under the Injury Prevention, Rehabilitation and Compensation Act. ACC cover is not automatic and the case will need to be assessed by ACC according to the provisions of the 2002 Injury Prevention Rehabilitation and Compensation Act. If a claim is accepted by ACC, it still might not lead to compensation. This depends on a number of factors such as whether they are an earner or non-earner. ACC usually provides only partial reimbursement of costs and expenditure and there may be no lump sum compensation payable. There is no cover for mental injury unless it is the result of physical Injury. If you have ACC cover, generally this affects your right to sue the investigators. If you have any questions about ACC, contact your nearest ACC office or investigator.

Appendix 26. SACS study 6 & 7 – Representative letters to clinical participant parents

April 2005

Dear Parent(s)/Guardian(s) of *[name of service]*

[Name of service] is currently involved in a research project to develop a substance use questionnaire. The attached parent information sheet provides details about the project.

Your child (or a child in your care) has been invited to participate in this research project. Participation will involve about 15 minutes of their time (within a counselling session) and does not differ from standard practice in any way whatsoever (*[name of service]* already use pen and paper questionnaires in their interventions with young people).

The study is voluntary and your child does not have to participate. Regardless of whether your child participates or not, their treatment with *[name of service]* will be the same. If you do not want your child to participate please inform your child's clinician or contact *[name of researcher]* at the number below.

If you or your child have any further questions or want extra information please do not hesitate to make contact with me or *[name of researcher]* at the numbers below.

Yours faithfully

Dr Grant Christie
Principle Investigator SACS Research Team
CADS Youth Service Altered High
316 Richmond Rd, Grey Lynn, Auckland
Telephone: 09 361 6857
Fax 09 3605818
Email: grant.christie@waitematadhb.govt.nz

Alternative contact

[name of researcher] - Lead Clinical Researcher
Clinical Research and Resource Centre - Waitemata District Health Board
Telephone: 09 815 5843 extension 5010

Parent/Guardian Letter (Te Ātea Marinō)

September 2005

E nga matua, kaitiaki o nga taitamariki, mokopuna huri noa te motu, tena koutou, tena koutou, tena koutou katoa.

Kua tukunga a CADS, te taha Rangatahi, to ratou kaupapa rangahau me ona patai e pa ana ki nga kai tarutaru, kai kino katoa. Ko nga whakamarama korero enei e whai ake nei, hei tiroiro, hei whakaaro mau, mena e pai ana enei mahi rangahau, ki to titiro, mo to tamaiti, tamariki ranei.

Your child (or a child in your care) has been invited to participate in this research project. Participation will involve about 15 minutes of their time (within a counselling session) and does not differ from standard practice in any way whatsoever (Te Ātea Marinō already use pen and paper questionnaires in their interventions with young people).

The study is voluntary and your child does not have to participate. If your child does not wish to participate in the study, their treatment with Te Ātea Marinō will be not be affected. If you do not want your child to participate please inform your child's clinician or contact Stella Black at the number below.

If you or your child have any further questions or want extra information please do not hesitate to make contact with me or Grant at the numbers below.

Naku noa na

Stella Black – Māori Researcher
Clinical Research and Resource Centre - Waitemata District Health Board
Telephone: 09 815 5830 extension 5010
Email: stella.black@waitematadhb.govt.nz

Alternative contact

Dr Grant Christie
Principle Investigator SACS Research Team
CADS Youth Service Altered High
316 Richmond Rd, Grey Lynn, Auckland
Telephone: 09 361 6857
Fax 09 3605818
Email: grant.christie@waitematadhb.govt.nz

Correspondence Address

Pitman House, 50 Carrington Road, Pt Chevalier, Auckland
Telephone: Direct Dial (09) 815 5843 Facsimile: (09) 815 5896

Parent/Guardian Letter (Tupu – Samoan)

September 2005

Talofa Lava

Ua matou tusi atu ona o le fia faailoa atu o se suesuega o loo feagai ma lenei ofisa ua taua o le Tupu services e faatatau i se suesuega e faamaumau ai le faaaogaina o vailaau.

Ua filifilia lou alo e auai i lenei suesuega ma e manaomia se talanoaga ma loa alo pe a lona umi ma le 15 minute. O lenei fa'atalatalanoaga o se auala masani lava faatatau i nei suesuega pei ona faatinoina muamua e lenei ofisa i isi ana galuega ma suesuega.

E le faamalositia le auai o lou alo i lenei suesuega. O lenei suesuega o le a puipuia malu ma o mataupu uma e maua mai ai e faatatau i lou alo o le a malu puipuia lea i lenei ofisa. O loo i ai foi ni faamatalaga tusia o loo faapiiina atu ina ia e malamalama atili i lenei suesuega.

O le auai poo le lē auai o lou alo i lenei suesuega o le a lē afaina lea ma o le a lē afaina ai fua ni ona togafitiga mai le ofisa lea o Tupu. Afai e te lē finagalo e auai lou alo, faamolemole faailoa ane i le fomai a loo vaaiia lou alo pe valaau mai foi ia Grant Christie po'o Ata Samu i le numera o le telefoni o loo tusi atu i lalo.

Afai e i ai se vaega o lua fia fesili mai ai ma lou alo poo fia malamalama ai foi, faamolemole valaau mai au po'o Grant, ma te fiafia e talanoa atili ina ia maua so lua malamalamaaga.

Ma lo'u faaaloalo lava

Ata Samu
Clinical Research and Resource Centre
Waitemata District Health Board
Telephone: 09 815 5843 extension 5091
Email: kathleen.samu@waitematadhb.govt.nz

Alternative contact

Dr Grant Christie
Principle Investigator SACS Research Team
CADS Youth Service Altered High
316 Richmond Rd, Grey Lynn, Auckland
Telephone: 09 361 6857
Fax 09 3605818
Email: grant.christie@waitematadhb.govt.nz

Correspondence Address

Pitman House, 50 Carrington Road, Pt Chevalier, Auckland
Telephone: Direct Dial (09) 815 5843 Facsimile: (09) 815 5896

Parent/Guardian Letter (Tupu – Tongan)

September 2005

Si'i Matu'a Tauhi Fanau

'Oku lolotonga fakahoko ha savea fakatotolo 'ihe ngaue'anga Tupu Services, fekau'aki pea mo e founa fakafehu'i '0 hono ngaue'aki cae kava malohi pea moe faito' 0 kona tapu.

Kuo fakaafe;i 'a ho'o ki'i tama, ke ne kau ki he savea fakatotolo ni. 'Oku fakafuofua ki he miniti 'e 15 hono fakahoko, lolotonga 'ene 'ihe taimi fale'i. 'Oku 'ikai ha'ane toe kehe mei he me' a anga maheni

'Oku tau'atana ho'o tama ke ne kau mai pe ikai. Koe fakatotolo ni oku tapu ke mama ki tu'a ha fakamatala e tanaki maio E tauhi ae fakamatala kotoape ihe faile 0 ho'o ki'j tamasi'i. Oku oatu fakataha heni moe fakamatala makehe ki he matu'a fekau'aki moe fakatotolo ni.

Okapau e ikai fie kau mai a ho'o ki'i tama ki he fakatotolo, e kei tatau aipe ae ngaue moe fie tokoni ae kau ngaue Tupu kiate ia. Kataki 0 fetu'utaki mai ki Tupu pe ko Ata Samu pea mo Grant Christie ki he ngaahi fika telefoni oku ha atu i lalo, okapau oku ikai kau a ho'o tama; pe oku iai ha fehu'i pe toe fiema'u ha fakamatala makehe. Malo aupito.

Faka'apa'apa atu

Ata Samu
Clinical Research and Resource Centre
Waitemata District Health Board
Telephone: 09 815 5830 extension 5091
Email: kathleen.samu@waitematadhb.govt.nz

Alternative contact

Dr Grant Christie
Principle Investigator SACS Research Team
CADS Youth Service Altered High
316 Richmond Rd, Grey Lynn, Auckland
Telephone: 09 361 6857
Fax 09 3605818
Email: grant.christie@waitematadhb.govt.nz

Correspondence Address

Pitman House, 50 Carrington Road, Pt Chevalier, Auckland
Telephone: Direct Dial (09) 815 5843 Facsimile: (09) 815 5896

Appendix 27. SACS study 6 & 7 – Representative letter to community participant parents

March 2005

Dear Parent(s)/Guardian(s) of x College Students,

The purpose of this letter is to inform you that your child or a child in your care has been invited to participate in a research study which will be conducted at x College, during school hours in April 2005.

The SACS Investigation Team (a collaboration between Waitemata DHB and the University of Auckland) is developing and testing a new substance use screening and outcome measurement questionnaire, called the Substances and Choices Scale (SACS). It will be specifically developed for use in young people. With the help of x College students we are hopeful that our work will eventually lead to better identification and treatment for young people at risk of alcohol and other drug problems.

The study has ethics approval and we have the co-operation of the youth services within Community Alcohol and Drug Service (CADS) to access young people in treatment. We also need young people in schools to participate, as a representation of a typical community population of young people.

Attached is an information sheet that addresses key questions about this study. The study is voluntary and your child does not have to participate. If you or your child have any further questions or want extra information please do not hesitate to make contact with me on the contact numbers listed below.

Yours faithfully,

Dr Grant Christie
Principle Investigator SACS Research Team
CADS Youth Service Altered High
316 Richmond Rd, Grey Lynn, Auckland
Telephone: 09 361 6857
Fax 09 3605818
Email: grant.christie@waitematadhb.govt.nz

Alternative contact

Christel Le Brun - Lead Clinical Researcher
Clinical Research and Resource Centre - Waitemata District Health Board
Telephone: 09 815 5843 extension 5010
Email: christel.lebrun@waitematadhb.govt.nz

Appendix 28. SACS study 5, 6 & 7 - Demographic information form

Hi there. Thanks for taking part in this study.

On this first page we would be grateful for some general information about you (see demographic data box below). It would be good if you could provide this information even if you are not consenting to participate in the study. Please note that we do not want you to write your name anywhere. This is so your answers remain private and confidential.



On the following pages are some questionnaires to complete. One is called the SACS; this is the questionnaire that we have designed. There are 2 alternative questionnaires which we are testing the SACS against, the CRAFFT and the POSIT. These 3 questionnaires (SACS, CRAFFT and POSIT) are in no particular order.

Please note the different time frames of each questionnaire.

- The SACS asks about things over the last month... 'in the last month...'
- The POSIT asks about things over the last 2 months...
- The CRAFFT asks 'have you ever...'

The last questionnaire does not have questions about substance use and is called the SDQ. It asks about things over the last 6 months.

Finally, on the last page, if you want to, you can give feedback about the 'SACS' questionnaire.

Thanks very much for your help.

Demographic data box – Please fill in the gap or tick one box for each question.				
Today's date/...../.....		How old are you? (in years).....		Gender Male <input type="checkbox"/> Female <input type="checkbox"/>
What is your ethnicity?		Who do you live with?		What is your main occupation?
European <input type="checkbox"/>		Independently (own place) <input type="checkbox"/>		At secondary school (or alternative education) <input type="checkbox"/>
Māori <input type="checkbox"/>		At parent/s place <input type="checkbox"/>		At tertiary training (Uni,Unitech etc) <input type="checkbox"/>
Pacific <input type="checkbox"/>		At another relation's or guardian's place <input type="checkbox"/>		On other training programme (apprenticeship etc.) <input type="checkbox"/>
Asian <input type="checkbox"/>		At a CYF/justice placement <input type="checkbox"/>		In employment <input type="checkbox"/>
Other (list) <input type="checkbox"/>		Other (list)		Unemployed <input type="checkbox"/>
.....				Other (list)
.....				<input type="checkbox"/>
Office use		2. SA - 1 2 3		4. Week - 4 5 6 7 8
1. SD - 1 2 3		3. G.S. - 1 2 3 4 5 6 7		5. G.I. - 1 2 3 4 5 6 7 8 9

Appendix 29. SACS study 5, 6 & 7 – Feedback form

Thank you very much for completing the questionnaires. Your assistance with this research will mean that we are able to provide a better help for young people with substance use problems in the future.

The questionnaire that we have developed is the SACS. This is the questionnaire that asked questions about things in *the last month* and had the options, *Not True, Somewhat True and Definitely True*. If you want to give feedback on the SACS questionnaire please answer any of the following questions and add any comments you want to. Use the other side of this page if more room is needed.

1) Please mark a cross on the line where you think the answer to each statement should be.

a) I found the SACS questionnaire to be

EASY _____ HARD

b) I found the SACS questionnaire to be

HELPFUL _____ NOT HELPFUL

c) I found that the SACS questionnaire was

UPSETTING _____ NOT UPSETTING

2) What did you like about the SACS questionnaire?

3) What didn't you like about the SACS questionnaire?

4) If you have any other comments that you would like to make please put them here.

THANK YOU AGAIN FOR ALL YOUR HELP



Appendix 30. Copy of CRAFFT Questionnaire

CRAFFT Questionnaire

Please tick a box for each question

Have you ever ridden in a **C**ar driven by someone (including yourself) who was high or had been using alcohol or drugs? Yes No

Do you ever use alcohol or drugs to **R**elax, feel better about yourself, or fit in? Yes No

Do you ever use alcohol and drugs while you are by yourself, **A**lone? Yes No

Do you ever **F**orget things you did while using alcohol and drugs? Yes No

Do your **F**amily or **F**riends ever tell you that you should cut down on your drinking or drug use? Yes No

Have you ever gotten into **T**rouble while you were using alcohol or drugs? Yes No

Appendix 31. Copy of POSIT Questionnaire

POSIT- F Questionnaire

Please answer the following questions about the past 2 months of your life.

1. Have you gotten into trouble because you used drugs or alcohol at school?	Yes	No
2. Have you accidentally hurt yourself or someone else while high on alcohol or drugs?	Yes	No
3. Did you miss out on activities because you spent too much money on drugs or alcohol?	Yes	No
4. Have you felt you are addicted to alcohol or drugs?	Yes	No
5. Did you use more and more drugs or alcohol to get the effect you want?	Yes	No
6. Have you left a party because there was no alcohol or drugs?	Yes	No
7. Have you had a constant desire for alcohol or drugs?	Yes	No
8. Did you have a car accident while high on alcohol or drugs?	Yes	No
9. Have you forgotten things you did while drinking or using drugs?	Yes	No
10. Have you driven a car while you were drunk or high?	Yes	No
11. Did alcohol or drug use cause your moods to change quickly like from happy to sad or vice versa?	Yes	No
12. Did you miss school or arrive late for school because of your alcohol or drug use?	Yes	No
13. Did your family or friends tell you that you should cut down on your drinking or drug use?	Yes	No
14. Have you had serious arguments with friends or family members because of your drinking or drug use?	Yes	No
15. Has your alcohol and drug use made you do something you would not normally do – like break rules, miss curfew or break the law?	Yes	No
16. Have you had trouble getting along with any of your friends because of your alcohol or drug use?	Yes	No
17. Have you felt you can't control your alcohol or drug use?	Yes	No

Appendix 32. Copy of Strengths and Difficulties Questionnaire

Strengths and Difficulties Questionnaire

S11-17

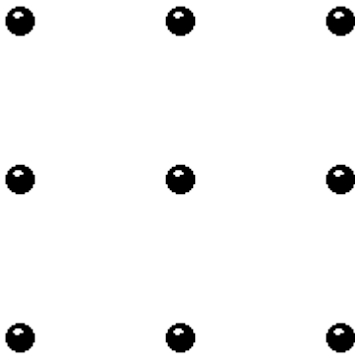
For each item, please mark the box for Not True, Somewhat True or Certainly True. It would help us if you answered all items as best you can even if you are not absolutely certain. Please give your answers on the basis of how things have been for you over the last six months.

	Not True	Somewhat True	Certainly True
I try to be nice to other people. I care about their feelings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am restless, I cannot stay still for long	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I get a lot of headaches, stomach –aches or sickness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I usually share with others, for example CD's, games, food	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I get very angry and often lose my temper	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I would rather be alone than with people of my age	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I usually do as I am told	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I worry a lot	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am helpful if someone is hurt, upset or feeling ill	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am constantly fidgeting or squirming	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I have one good friend or more	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I fight a lot. I can make other people do what I want	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am often unhappy, depressed or tearful	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other people my age generally like me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am easily distracted, I find it difficult to concentrate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am nervous in new situations. I easily lose confidence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am kind to younger children	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am often accused of lying or cheating	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other children or young people pick on me or bully me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I often offer to help others (parents, teachers, children)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I think before I do things	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I take things that are not mine from home, school or elsewhere	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I get along better with adults than with people my own age	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I have many fears, I am easily scared	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I finish the work I'm doing. My attention is good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Appendix 33. Brain teaser questions (for those non-consenters)

BRAIN TEASERS

1. If you are in a dark room with a candle, a wood stove and a gas lamp. You only have one match, so what do you light first?
2. Would you rather a crocodile attack you or an alligator?
3. Three people check into a hotel. They pay £30 to the manager and go to their room. The manager suddenly remembers that the room rate is £25 and gives £5 to the bellboy to return to the people. On the way to the room the bellboy reasons that £5 would be difficult to share among three people so he pockets £2 and gives £1 to each person. Now each person paid £10 and got back £1. So they paid £9 each, totalling £27. The bellboy has £2, totalling £29. Where is the missing £1?
4. Which word, if pronounced right, is wrong, but if pronounced wrong is right?
5. Connect all the dots below with four straight lines and without lifting your pencil.



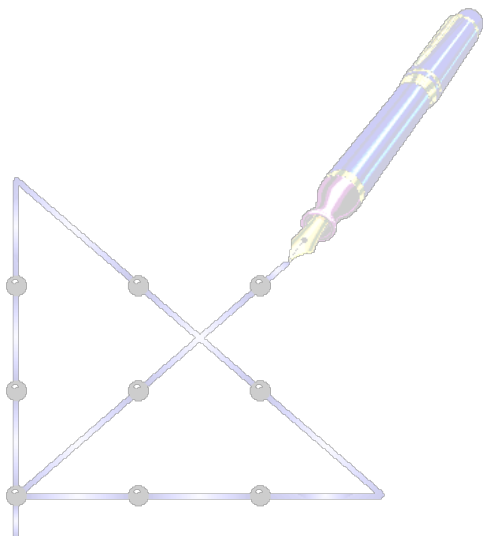
6. You are your way to visit your Grandma, who lives at the end of the valley. It's her birthday, and you want to give her the cakes you've made.

Between your house and her house, you have to cross 7 bridges, and as it goes in the land of make believe, there is a troll under every bridge! Each troll, quite rightly, insists that you pay a troll toll. Before you can cross their bridge, you have to give them half of the cakes you are carrying, but as they are kind trolls, they each give you back a single cake.

How many cakes do you have to leave home with to make sure that you arrive at Grandma's with exactly 2 cakes?

ANSWERS

1. The match!
2. I would rather the crocodile attack the alligator. Read the sentence again to see the double meaning.
3. We have to be careful what we are adding together. Originally, they paid £30, they each received back £1, thus they now have only paid £27. Of this £27, £25 went to the manager for the room and £2 went to the bellboy.
4. Wrong.
- 5.



6.
2: At each bridge you are required to give half of your cakes, and you receive one back. Which leaves you with 2 cakes after every bridge.

Appendix 34. SACS study 6 & 7 – Representative researcher protocol (clinical sample)

Clinician Information Sheet

Guidelines for recruiting participants (clients), gaining informed consent and collecting data

Thanks very much for assisting us with the data collection for the Substances and Choices Scale project. Your assistance for the feedback stage and your own feedback about the developing SACS questionnaire has guided us in the development of the SACS thus far.

We are now ready to implement Stage 1c, the discriminant testing stage. The procedures will be similar to the feedback stage, except that it is much quicker and we will not be attending the appointment with you and your client. This stage will be a pilot (practice) for the later Stage 2a (hopefully beginning after June this year) and a chance to iron out any problems ahead of time.

To assist you with Stage 1c we have written the following guidelines. Some of what we require does need to be met specifically, such as the client's eligibility to participate in the study. Other aspects are simply suggestions or an example on how to approach the situation. Please feel free to adapt those suggestions to suit your style or practice.

A) Who is eligible to participate?

Any new or established client of your service who

- is aged 13 to 18 years at the time they participate in the study
- has parent(s)/guardians(s) involvement in their treatment
- is able to complete the questionnaire without the assistance of their clinician and or/or an interpreter
- is not displaying active and severe symptoms of mental illness such as that might interfere with their ability to complete the questionnaire
- is not intoxicated

B) Steps in the process – overview

1. Informing clients (at least 1 week before hand)
2. Informing the clients' parents/guardians
3. Gaining written informed consent
4. Completing the questionnaire and feedback sheet
5. Providing opportunity to discuss the questionnaire if necessary
6. Making a copy of the SACS and placing the original research materials in filing room for collection by researchers.

C) Steps in the process – in detail

1. Informing clients of the opportunity to participate

Participants need to have time to consider whether or not they would like to take part in the study. Therefore they need to be informed of the study at least one week in advance. Below are three suggestions on how the participant should be informed.

Informing participants on the telephone

Informing the participants via the telephone can occur when you are arranging the initial or follow up appointment with your client. When explaining the study to the participant on the phone it is suggested that you follow the participant information sheet as a prompt to ensure all areas of information are covered. Following this we recommend posting an information sheet and the participant can inform you at the next appointment whether they wish to participate or not.

Mailing information sheets

Mailing the information sheets to the participants is the best way to ensure that they have had the opportunity to consider whether they want to participate in the study or not. Information sheets can be sent out when confirming an upcoming appointment. After ensuring that the young person's parent(s)/guardian(s) are involved in their treatment, the parent(s)/guardian(s) information sheet should also be sent out at the same time, in a separately addressed envelope.

Discussion with participants

Discussion with participants may occur during a face to face appointment. A possible approach may be *"I was wondering if I could talk to you about a research project that (Altered High, Tuḅu, Te Ātea Marinō) is doing. This study is developing an alcohol and drug screening and measurement questionnaire, specifically for New Zealand youth. Hopefully in the future this tool will be able to assist those young people who access services like this one, by having pen and paper questionnaire which relates specifically to their age group."*

If the participant is initially interested, you could give them the participant information sheet to read and you could answer any questions that arise. As the participant needs a week or more to consider if they will participate in the study, they should take the participant information sheet away with them.

2. Informing Parent(s)/Guardian(s)

Because the study ethics guidelines state that parent(s)/guardian(s) need to be made aware of their child's involvement in this study, clients who do not want their parent(s)/guardian(s) to be aware they are attending the CADS service are not eligible to participate in this study.

For young people who have parent(s)/guardian(s) who are aware of their involvement with a CADS service mailing out an information sheet is fine. You may also want to explain the study to them by telephone or at a prior appointment. However don't rely on a young person to give the parent information sheet to his or her parents as they may forget. The best thing to do in these circumstances is ask the young person if you can mail the information sheet to the parents.

If talking with parents on the telephone it would be important to emphasize that the survey is confidential, voluntary, not distressing in any way for the participant and that their child's treatment will not be affected should they decline to participate.

3. Gaining informed consent at the time of participation in the study

As the client's clinician, this is the time that you need to be happy that they are competent to participate in the study. Please check that they meet participation criteria as listed in point one in this document. If the young person has agreed to participate in the study then you need to provide another opportunity for them to discuss the study with you prior to gaining their written consent. A copy of the participant information sheet (to refer to) and a consent form will be in the research pack, with the actual study and other relevant documents.

Check that the client understands the study and what is required from them (review the info sheet if necessary) and then get the client to read the consent form and understand it before signing it.

Then sign it yourself (as the person who has explained the study.)

As detailed on the information sheet, if the participant would like a summary sheet of the study's results they can indicate this at the bottom of the consent form and this will be mailed to them when the study is completed.

4. Completion of the Penultimate SACS

Next give the young person the SACS. Typically the SACS should be completed within ten minutes and they should be able to do it by themselves. However, the participant may ask questions about aspects of the questionnaire so it is suggested that you familiarize yourself with its contents should this occur.

Attached to the SACS will be a feedback form. Encourage the young person to complete this, reminding them that we are developing the questionnaire and any feedback may lead to changes in it.

5. Discussion following completion of the SACS

Following the participant completing the SACS they may wish to discuss certain aspects of it. We would encourage discussion as deemed appropriate by you and also to check if completing the SACS was distressing in anyway to the participant. As with usual assessment processes standard safety checks should be employed.

6. Copying and filing the data

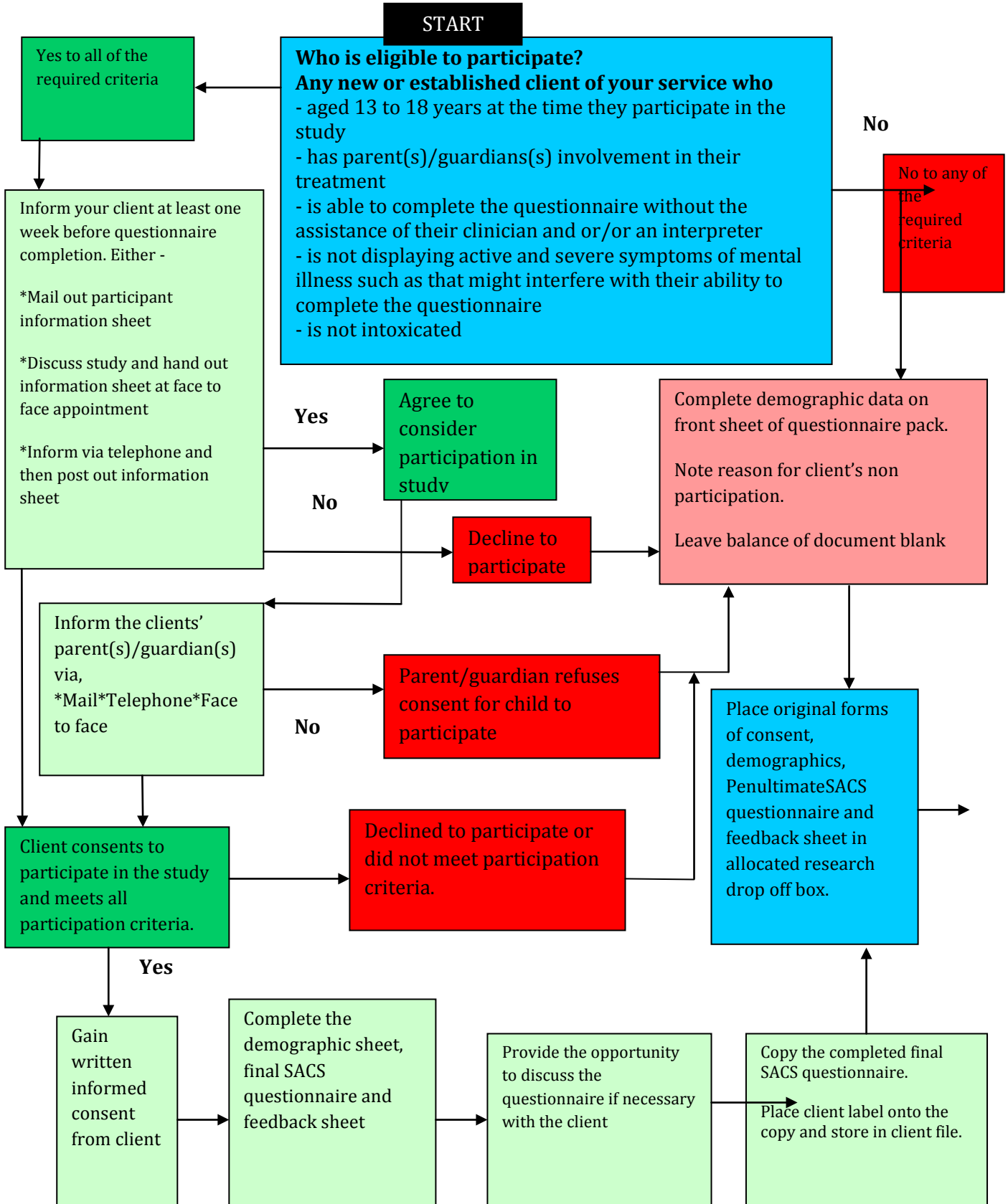
Make a copy of the completed questionnaire and put this in the client's file with a client label on it. Put the originals (i.e. consent form + SACS + feedback sheet) in the box in the (locked) file room for the research team to pick up and analyse.

7. Non-participants

For those young people who do not wish participate in the study for any reason or they did not meet participation criteria then you will need to complete the demographic data on the front sheet of the questionnaire including the code for the reason that they did not participate. Then leave the rest of the document blank. The form is then returned as per point 6 above.

Clinician Information Flow Chart

Procedures required for clients participating in the SACS Study



Appendix 35. SACS study 6 & 7 – Representative researcher protocol (community sample)
Protocol
Stage 2- Psychometric Testing of the SACS
Community Sample Data Collection

Researchers

- Kathleen (Ata) Samu, Pacific Researcher, CRRC, Waitemata DHB
- Christel Le Brun, Clinical Researcher, CRRC, Waitemata DHB
- Stella Black, Māori Researcher, CRRC, Waitemata DHB

Community Sample

The aim of this stage is for 400-600 male and female students of varying ethnicities, aged 13 to 18 to complete the SACScom. The community sample will be collected from two schools, x College and y College. Two classes from each year group will be selected that best meet the above requirements and fit the participant criteria as listed below.

Edgewater College students will be requested to complete the SACScom twice to assist with establishing test-retest reliability. Half the participants from x will complete the 're-test' one week after the first test and the other half of participants will complete the 're-test' three weeks after the first test.

Lynfield College students will complete the SACScom on one occasion only.

Participant Exclusion

The students (from the selected classes) will be assessed by the researchers, attending teacher and/or school staff to determine if they meet the community participant criteria as detailed below:

- Participant is within 13 to 18 years of age when participating in the study.
- The participant's parent(s)/guardian(s) have been informed of the study.
- Participant is able to complete the questionnaire without the assistance of their teacher (or other adult in attendance) or researcher.
- Participant is not displaying active and severe symptoms of mental illness such as that might interfere with their ability to complete the questionnaire.
- The participant is not intoxicated.

Pre-study participant information

Provision of written information to potential participants and their parents will occur at least one week prior to participation in the study. Relevant documents to be issued are as follows:

- Part 2b – Community Testing - Participant Information Sheet
- Part 2b – Community Testing - Information sheet for Parents/Guardians
- Introductory Letter for Parents/Guardians

Information for students

Information sheets for students will be provided to the school for distribution to selected students at least one week before the study commencement (and before parent/guardian information sheets are mailed). The school will arrange delivery of information sheets to the students in the selected classes.

Information for parent(s)/guardian(s)

The school may elect to provide the address of selected students to research staff so that they can mail out information sheets to parent(s)/guardian(s). Alternatively the school may elect to send the information sheets to parent(s)/guardian(s) themselves in which case the research team will provide the school with all the appropriate documents and stamped envelopes. The parent information sheets will be mailed out once the selected students have been informed of the study.

Study day information and consent procedures (1st test Edgewater and Lynfield College)

On the day of the study potential participants will be briefed about the process in detail prior to providing written consent. This is an opportunity to clarify any concerns the student might have.

Format for the briefing process:

General process for both x and y College

The desks in the class will be laid out in 'exam' format, that is desks and chairs spaced out so that optimum level of privacy is achieved.

Researchers will be introduced by involved school staff to the classes of selected students and the researchers will stand up in front of each class of selected students and explain who they represent and the purpose of the study

Researchers will

- explain the practical aspects of what will be required by the students
- explain voluntary participation and issues around confidentiality
- explain the participant information sheet section by section - each student will have a copy of this sheet attached to the front of their research pack
- allow the opportunity for students to ask questions about the study and the process expected from them
- explain that the 'research pack' is in a folder which can be used by the students to provide further privacy when completing the survey (by holding the cover up while writing)
- explain that for non-consenting students that it would be helpful if they filled out the 'demographic data box' and that there is an alternative activity in the research pack for them to complete if desired
- highlight the external support services available for the students if required and write the names of the College support persons on the board

Specific to x College students only

- x College students will be advised that this is the first of two tests that we will ask them to complete. Explain that half the involved classes will complete a second test in one week time and that the other half of the involved classes will complete the second test in three weeks time.
- For the initial test a complete research pack, with the participant information sheet on the top will be put on each desk. For the re-test the research pack will be handed to each student as their name is called out. Please see below regarding the test-retest process.
- Researchers will explain the process of de-identifying the student information and respond to any questions.
- The researcher will then ask students to open their research pack and complete the written consent form.

Specific to y College students only

- At y College a complete research pack, with the participant information sheet on the top will be put on each desk.
- The researcher will then ask students to open their research pack and complete the written consent form.

Retest – one and three week interval – Edgewater College only

The x College participants will complete the SACSCOM two times over a three week period. One half of the involved classes will complete the SACSCOM one week after the initial test. The other half will complete the SACSCOM three weeks after the initial test completion. The purpose of the test-retest is to test the reliability of the questionnaire over repeated testings. It is important that the results of each individuals' questionnaires are compared against each other. To do this, and also maintain confidentiality, we require an identification system that can identify each participant without naming them.

On the day of study the researchers will stress to the participants, the importance of them writing their names legibly on the consent form. Later, when processing the data, the researchers will make a list of the student names in each class from the consent forms and a list of class members provided by the school. They will then provide each student with a unique identifying number. The researcher will write this number on the students' first questionnaire (the test).

Prior to returning for the 'retest' the researchers will write each participants' unique identifying number on the questionnaires to be completed. They will then, using a removable label, also label the questionnaires with the corresponding student's name. When handing out the research packs to the students the researchers will call each student name and hand them the 'retest' questionnaire. Once the correct questionnaire has been handed to the corresponding students, the participants will be asked to remove the identifying label (with their name on it).

The paperwork that has the student name and identifier on it will be held by the researchers and will not be distributed to any persons outside of the study project. Following the second test, the list of student names and their identifiers will be permanently destroyed.

Data collection

Students will be asked to complete the demographic data box and the study questionnaires. There is an alternative activity available for those who do not consent or who finish the questionnaire early. We anticipate that most students will complete the questionnaire within 10 minutes.

Students will be asked to place the completed consent forms, questionnaires and other paperwork in the provided research folder when finished.

Researchers will collect the research packs as the students finish the survey.

Researchers will provide an opportunity to discuss the questionnaire following completion.

Confidentiality and storage of raw data

Research packs collected from students will be locked away at WDHB premises as per the ethics guidelines.

Appendix 37. Attitudes study – Pre workshop questionnaire Staff Survey

NOTE: You will see the acronym ‘AOD’ used frequently throughout this document. AOD stands for ‘Alcohol and Other Drug(s)’. This acronym is mostly used in relation to addictions and substance use. ‘Other Drugs’ refers to legal or illegal substances.

You are invited to take part in a survey of staff as part of the Substance and Choices Scales Brief Intervention (SACS BI) Evaluation Project. **This project is evaluating today’s training programme** on AOD screening and brief interventions within Waikato DHB CAMHS and Hauora Waikato CAMHS. The training aims to enable mental health clinicians and senior staff to use the SACS BI, an AOD screening tool and brief intervention, with their clients.

This questionnaire asks about your current knowledge, beliefs and skills around assessing and responding to hazardous and risky AOD use among mental health service users. **Your contribution to the survey is anonymous** and all information from the survey will be available only to the members of the research team. The information gathered from the survey will be used to help evaluate the training programme. The questionnaire should only take about 20 minutes of your time. We really appreciate your contribution.

If you have any questions regarding this survey please don’t hesitate to contact Stella Black (details below).

This study is an observational enquiry for which ethical approval was not required.

Here are some guides to filling in the questionnaire:

- ✚ There are two parts to this questionnaire, we will ask you to complete Part 1 prior to the training beginning, please keep the Part 2 and complete this immediately after the training ends.
- ✚ Please try to answer all the questions.
- ✚ There are three types of questions in the survey:
 1. One type simply asks you to choose an answer from a supplied list by putting a tick in the box beside the item you have chosen.
 2. The other type of question asks for you to provide more information in your own words.
 3. The third type of question is a rating scale, you are asked to circle one number along the scale.

Strongly disagree											Strongly agree
1	2	3	4	5	6	7	8	9	10		

- ✚ Please be aware that occasionally your answers will mean that you do not have to complete some of the following questions but can skip them and move to later parts of the questionnaire. When this happens please remember to read any instructions relating to the questions that you have moved to.

Thank you for taking the time to fill out this questionnaire.

Stella Black, Researcher
Clinical Research and Resource Centre (CRRC) - Waitemata District Health Board
Private Bag 93115
Henderson, Waitakere 0650
Ph 09 837 8886

PART 1 - SECTION A

The first section gathers some basic information about you and your professional background.

1. You are: ₀₁...FEMALE ₀₂...MALE

2. Your age at last birthday would fit into which of the following age brackets:

- | | |
|---|---|
| <input type="checkbox"/> ₀₁ ...20 – 24 years | <input type="checkbox"/> ₀₆ ...45 – 49 years |
| <input type="checkbox"/> ₀₂ ...25 – 29 years | <input type="checkbox"/> ₀₇ ...50 – 54 years |
| <input type="checkbox"/> ₀₃ ...30 – 34 years | <input type="checkbox"/> ₀₈ ...55 – 59 years |
| <input type="checkbox"/> ₀₄ ...35 – 39 years | <input type="checkbox"/> ₀₉ ...60 – 64 years |
| <input type="checkbox"/> ₀₅ ...40 – 44 years | <input type="checkbox"/> ₁₀ ...65 years and over |

3. Please describe your ethnicity in your own words

4. From the following list, please identify which group you belong to:

- | | |
|---|--|
| <input type="checkbox"/> ₀₁ ...Social Worker | <input type="checkbox"/> ₀₅ ...Occupational Therapist |
| <input type="checkbox"/> ₀₂ ...AOD Clinician | <input type="checkbox"/> ₀₆ ...Family therapist |
| <input type="checkbox"/> ₀₃ ...Doctor | <input type="checkbox"/> ₀₇ ...Other therapist (Please describe.....) |
| <input type="checkbox"/> ₀₄ ...Nurse | |

5. How long have you been working at:

₀₁...Waikato DHB CAMHS _____years _____months

₀₂...Hauora Waikato CAMHS _____years _____months

6. How would you describe your seniority in the organisation?

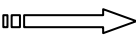
- ₀₁...Clinical role only
- ₀₂...Supervisory role
- ₀₃...Supervisory and management role

7. How long is it since you gained your undergraduate or basic professional qualification?

_____years _____months

...continue on the next page

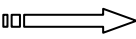
8. Have you ever worked in the AOD related field?

- ₀₁...NO  GO TO QUESTION 12
- ₀₂...YES

9. If you answered YES to the above question please detail the role, length of time and when this was.

ROLE	TIME IN JOB	WHEN WAS THIS

10. Have you had any AOD related education or training since qualifying?

- ₀₁...NO  GO TO QUESTION 12
- ₀₂...YES

11. If you answered YES to the above question, please detail what sort of education and training it was, how many hours it involved and when it was undertaken. Also note if any of the training covered screening tools or brief intervention techniques.

TYPE	WHEN	SCREENING and/or BRIEF INTERVENTION	NO OF HOURS
		YES / NO	
		YES / NO	
		YES / NO	

12. What, if anything, do you know about screening tools used for assessing AOD use?

- ₀₁...I DON'T KNOW ANYTHING ₀₂...I KNOW THE FOLLOWING
-

13. What, if anything, do you know about brief interventions for AOD use?

- ₀₁...I DON'T KNOW ANYTHING ₀₂...I KNOW THE FOLLOWING
-
-

...continue on the next page

Please rate how much of a problem you consider AOD to be in the following situations by circling one number (1 = not a problem, 10 = the single major problem):

How much of a problem do you consider AOD to be in the following situations:

		Not a problem					Single major problem				
14.	In the health care system in general.	<u>1</u>	2	3	4	5	6	7	8	9	<u>10</u>
15.	In YOUR work as a mental health professional.	<u>1</u>	2	3	4	5	6	7	8	9	<u>10</u>

16. What sort of AOD related health issues are you most concerned about?

18. What sort of issues related to AOD do you encounter in your work?

PART 1 - SECTION B

This section looks at what you do *now* to assess patients for AOD use, and how you respond when you are concerned about a patient's current AOD use.

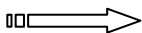
Important definitions:

Screening: a formal process of some sort (e.g. a standardised set of questions) that assesses a person's AOD use and identifies whether that use is problematic or not.

Brief intervention: a short discussion with a patient where they are informed and educated about the risky, harmful or hazardous nature of their AOD consumption.

In this section we want you to answer in relation to the **last six months** of your work.

18. Of all the patients you have cared for, how many have you asked about their AOD use:

- ₀₁...NONE  GO TO QUESTION 30
- ₀₄...A FEW
- ₀₃...MOST
- ₀₂...ALL

...continue on the next page

19. What do you usually do when asking a young person about their AOD? (Tick as many as apply)

- ₀₁... I don't usually ask
- ₀₂... Just chat informally
- ₃₂... Ask some standard questions
- ₀₄... Use a Screening Questionnaire or Tool (please specify)

₀₅... I do other things (please specify)

20. When you identify a young person whose AOD use, you believe, is a problem for them or is placing them at risk, what sorts of things do you do? (Tick as many as apply)

- ₀₁... Talk to them informally
- ₀₂... Write your concerns in their notes
- ₀₃... Include details in a discharge summary (or ask that this is done).
- ₀₄... Speak with another health professional
- ₀₅... Speak with another health professional skilled in the AOD area
- ₀₆... Offer to refer them to a specialist service
- ₀₇... Offer a brief intervention
- ₀₈... Start AOD treatment myself
- ₀₉... None of the above
- ₁₀... I do other things (Please specify)

...continue on the next page

PART 1 – SECTION C

This section looks at how you feel about dealing with AOD issues in your current practice.

Please rate how strongly you agree or disagree with the following statements by circling one number (1=strongly disagree, 10 =strongly agree):

		Strongly disagree	Strongly agree
21.	I feel able to talk to young people about their AOD difficulties	<u>1</u> 2 3 4 5 6 7 8 9 10	
22.	I feel able to assess young people for AOD problems	<u>1</u> 2 3 4 5 6 7 8 9 10	
23.	I feel confident when addressing AOD concerns in young people	<u>1</u> 2 3 4 5 6 7 8 9 10	
24.	I know what to do if I identify AOD difficulties in young people	<u>1</u> 2 3 4 5 6 7 8 9 10	
25.	I know how to perform a brief intervention	<u>1</u> 2 3 4 5 6 7 8 9 10	
26.	I feel confident discussing the harms of alcohol and drug use with young people	<u>1</u> 2 3 4 5 6 7 8 9 10	
27.	I feel able to advise young people about their AOD problems	<u>1</u> 2 3 4 5 6 7 8 9 10	
28.	If I identified AOD difficulties in a young person I would perform a brief intervention	<u>1</u> 2 3 4 5 6 7 8 9 10	
29.	I know how to use a motivational approach when working with young people	<u>1</u> 2 3 4 5 6 7 8 9 10	
30.	I can brainstorm strategies for reducing AOD related harm with young people	<u>1</u> 2 3 4 5 6 7 8 9 10	
31.	I know how to set goals to minimise the harm related to AOD use with young people	<u>1</u> 2 3 4 5 6 7 8 9 10	

...continue on the next page

PART 1 - SECTION D

This section looks at working with young people whose AOD use is of concern or problematic.

Thinking about the young people whose AOD use is risky, harmful or hazardous, please rate how strongly you agree or disagree with the following statements by circling one number (1=strongly disagree, 10 =strongly agree):

		Strongly disagree	Strongly agree
32.	I feel I know enough about the causes of AOD problems to carry out my role when working with young people with AOD problems	<u>1</u> 2 3 4 5 6 7 8 9 10	
33.	I feel I do not have much to be proud of when working with young people with AOD problems	1 <u>2</u> 3 4 5 6 7 8 9 10	
34.	All in all I am inclined to think I am a failure with young people with AOD problems	<u>1</u> 2 3 4 5 6 7 8 9 10	
35.	I want to work with young people with AOD problems	1 2 3 4 5 6 7 8 9 <u>10</u>	
36.	I believe that pessimism is the most realistic attitude to take towards young people with AOD problems	<u>1</u> 2 3 4 5 6 7 8 9 10	
37.	I feel I have the right to ask young people about their AOD use when necessary	1 2 3 4 5 6 7 8 9 <u>10</u>	
38.	I feel that my patients believe that I have the right to ask them questions about their AOD use when necessary	<u>1</u> 2 3 4 5 6 7 8 9 10	
39.	In general it is rewarding to work with young people with AOD problems	1 2 3 4 5 6 7 8 9 <u>10</u>	
40.	In general I like young people with AOD problems	<u>1</u> 2 3 4 5 6 7 8 9 10	

... continue on the next page

PART 1 - SECTION E

This last section looks at barriers and incentives to conducting screening and brief intervention as part of your current role and within your present workplace.

Consider conducting screening and brief intervention as part of your current role and within your present workplace.

Please rate how strongly you agree or disagree with the following statements by circling one number (1=strongly disagree, 10 =strongly agree)

<i>I find it difficult to conduct screening and brief interventions in my current role because:</i>		Strongly								Strongly	
		disagree								agree	
41.	I have not been trained to help patients reduce their AOD use.	<u>1</u>	2	3	4	5	6	7	8	9	10
42.	I am too busy dealing with the problems that young people present with.	<u>1</u>	2	3	4	5	6	7	8	9	10
43.	There are no appropriate self-help or educational pamphlets available to me.	<u>1</u>	2	3	4	5	6	7	8	9	10
44.	I do not have access to a suitable AOD screening tool.	<u>1</u>	2	3	4	5	6	7	8	9	10
45.	I do not know how to identify AOD users who have no obvious symptoms of excess consumption.	<u>1</u>	2	3	4	5	6	7	8	9	10
46.	I believe that screening and brief interventions are not the sorts of things I should be doing in my role as a Mental Health professional.	<u>1</u>	2	3	4	5	6	7	8	9	10
47.	I do not know where to refer young people to.	<u>1</u>	2	3	4	5	6	7	8	9	10
48.	I believe that AOD services in the community are not effective.	<u>1</u>	2	3	4	5	6	7	8	9	10

...continue on the next page

Again, consider screening and brief intervention as part of your current role and within your present workplace.

Please rate how strongly you agree or disagree with the following statements by circling one number (1=strongly disagree, 10 =strongly agree)

<i>I am more motivated to conduct screening and brief interventions in my present role because:</i>		Strongly disagree	Strongly agree
49.	Health and media campaigns, in general, have made society more concerned about AOD use.	<u>1</u> 2 3 4 5 6 7 8 9 10	
50.	Patients are requesting health advice about AOD use.	<u>1</u> 2 3 4 5 6 7 8 9 10	
51.	Support services are readily available for referring patients to.	<u>1</u> 2 3 4 5 6 7 8 9 10	
52.	There is good evidence that AOD screening and brief interventions are effective with young people.	<u>1</u> 2 3 4 5 6 7 8 9 10	
53.	I have quick and easy screening questionnaires and intervention techniques available to me.	<u>1</u> 2 3 4 5 6 7 8 9 10	
54.	Training in AOD screening and brief interventions will help me do my job better.	<u>1</u> 2 3 4 5 6 7 8 9 10	
55.	Providing AOD screening and brief interventions will make a difference to the young people I care for	<u>1</u> 2 3 4 5 6 7 8 9 10	

PLEASE STOP HERE

Please don't answer any more questions at this time

**Hand this part of the questionnaire
back to the research team.**

We will ask you to complete Part 2 once the training ends.

**Now that you have finished the
SACS BI training programme
please answer the following questions**

Please give the training programme an overall rating by circling one number (1 = very poor , 10 = excellent)

		Very poor	Excellent
1.	Overall, how would you rate the training programme?	1	10

Please rate how strongly you agree or disagree with the following statements by circling one number (1 = strongly disagree, 10 = strongly agree)

		Strongly disagree	Strongly agree
2.	The information delivered at this workshop will be helpful in my work	1	10
3.	The workshop covered the information well	1	10
4.	The workshop was easy to follow	1	10
5.	The workshop was well presented	1	10
6.	With regard to my current work the skills taught were pitched just right	1	10
7.	The training increased my overall knowledge around AOD use and harm in young people	1	10
8.	The training equipped me well for using the SACS for screening clients	1	10
9.	The training equipped me well for carrying out a brief intervention	1	10
10.	The SACS brief intervention will be useful in my work in CAMHS	1	10

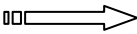
...continue on the next page

11. Are there any areas of the training that you found especially useful?
12. Are there any areas of the training that you would like to see expanded, changed or improved?

PART TWO - SECTION B

In this section we are interested in your feelings about using **SACS** and/or providing **BRIEF INTERVENTIONS** for people with AOD related issues.

13. As part of your role, do you have regular contact with clients?

01 ...NO  GO TO QUESTION 17

02 ...YES

Please rate how strongly you agree or disagree with the following statements by circling one number (1 = strongly disagree, 10 = strongly agree)

		Strongly disagree	Strongly agree
14.	I feel <u>able to use</u> the SACS Brief Intervention as part of my usual clinical assessment and practise.	<u>1</u> 2 3 4 5 6 7 8 9 <u>10</u>	
15.	I feel <u>confident</u> using the SACS Brief Intervention as part of my usual clinical assessment and practise.	<u>1</u> 2 3 4 5 6 7 8 9 <u>10</u>	
16.	I believe using the SACS Brief Intervention will improve my clinical assessment and practise.	<u>1</u> 2 3 4 5 6 7 8 9 <u>10</u>	
17.	I intend to use the SACS Brief Intervention in my clinical practice.	<u>1</u> 2 3 4 5 6 7 8 9 <u>10</u>	
18.	Using the SACS Brief Intervention will be a hassle.	<u>1</u> 2 3 4 5 6 7 8 9 <u>10</u>	

...continue on the next page

19. What other issues or comments around the use of SACS Brief Intervention would you like us to be aware of?

These can be negative or positive issues and may concern things such as your individual practice, professional issues, or ward/hospital organisation. Please don't feel limited to these prompts.

PART 2 - SECTION C

This section looks at how you feel about dealing with AOD issues in your current practice. Please rate how strongly you agree or disagree with the following statements by circling one number (1=strongly disagree, 10 =strongly agree):

		Strongly disagree									Strongly agree
20.	I feel able to talk to young people about their AOD difficulties	<u>1</u>	2	3	4	5	6	7	8	9	10
21.	I feel able to assess young people about their AOD difficulties	<u>1</u>	2	3	4	5	6	7	8	9	10
22.	I feel confident when addressing AOD concerns in young people.	<u>1</u>	2	3	4	5	6	7	8	9	10
23.	I know what to do if I identify AOD difficulties in young people	<u>1</u>	2	3	4	5	6	7	8	9	10
24.	I know how to perform a brief intervention	<u>1</u>	2	3	4	5	6	7	8	9	10
25.	I feel confident discussing the harms of alcohol and drug use with young people.	<u>1</u>	2	3	4	5	6	7	8	9	10
26.	I feel able to advise young people about their AOD problems.	<u>1</u>	2	3	4	5	6	7	8	9	10
27.	If I identified AOD difficulties in a young person I would perform a brief intervention	<u>1</u>	2	3	4	5	6	7	8	9	10
28.	I know how to use a motivational approach when working with young people	<u>1</u>	2	3	4	5	6	7	8	9	10
29.	I can brainstorm strategies for reducing AOD related harm with young people.	<u>1</u>	2	3	4	5	6	7	8	9	10
30.	I know how to set goals to minimise the harm related to AOD use with young people.	<u>1</u>	2	3	4	5	6	7	8	9	10

...continue on the next page

PART 2 - SECTION D

This section looks at working with young people whose AOD use is of concern or problematic.

Thinking about the young people whose AOD use is risky, harmful or hazardous, please rate how strongly you agree or disagree with the following statements by circling one number (1=strongly disagree, 10 =strongly agree):

		Strongly disagree	Strongly agree
31.	I feel I know enough about the causes of AOD problems to carry out my role when working with young people with AOD problems.	<u>1</u> 2 3 4 5 6 7 8 9 <u>10</u>	
32.	I feel I do not have much to be proud of when working with young people with AOD problems.	<u>1</u> 2 3 4 5 6 7 8 9 <u>10</u>	
33.	All in all I am inclined to think I am a failure with young people with AOD problems.	<u>1</u> 2 3 4 5 6 7 8 9 <u>10</u>	
34.	I want to work with young people with AOD problems.	<u>1</u> 2 3 4 5 6 7 8 9 <u>10</u>	
35.	I believe that pessimism is the most realistic attitude to take towards young people with AOD problems.	<u>1</u> 2 3 4 5 6 7 8 9 <u>10</u>	
36.	I feel I have the right to ask young people about their AOD use when necessary.	<u>1</u> 2 3 4 5 6 7 8 9 <u>10</u>	
37.	I feel that my patients believe that I have the right to ask them questions about their AOD use when necessary.	<u>1</u> 2 3 4 5 6 7 8 9 <u>10</u>	
38.	In general it is rewarding to work with young people with AOD problems.	<u>1</u> 2 3 4 5 6 7 8 9 <u>10</u>	
39.	In general I like young people with AOD problems.	<u>1</u> 2 3 4 5 6 7 8 9 <u>10</u>	

...continue on the next page

PART 1 - SECTION E

This last section looks at barriers and motivations to conducting screening and brief intervention as part of your current role and within your present workplace.

Consider conducting screening and brief intervention as part of your current role and within your present workplace.

Please rate how strongly you agree or disagree with the following statements by circling one number (1=strongly disagree, 10 =strongly agree)

<i>I find it difficult to conduct screening and brief interventions in my current role because:</i>		Strongly disagree	Strongly agree
40.	I have not been trained to help patients reduce their AOD use.	<u>1</u> 2 3 4 5 6 7 8 9 <u>10</u>	
41.	I am too busy dealing with the problems that young people present with.	<u>1</u> 2 3 4 5 6 7 8 9 <u>10</u>	
42.	There are no appropriate self-help or educational pamphlets available to me.	<u>1</u> 2 3 4 5 6 7 8 9 <u>10</u>	
43.	I do not have access to a suitable AOD screening tool.	<u>1</u> 2 3 4 5 6 7 8 9 <u>10</u>	
44.	I do not know how to identify AOD users who have no obvious symptoms of excess consumption.	<u>1</u> 2 3 4 5 6 7 8 9 <u>10</u>	
45.	I believe that screening and brief interventions are not the sorts of things I should be doing in my role as a Mental Health professional.	<u>1</u> 2 3 4 5 6 7 8 9 <u>10</u>	
46.	I do not know where to refer young people to.	<u>1</u> 2 3 4 5 6 7 8 9 <u>10</u>	
47.	I believe that AOD services in the community are not effective.	<u>1</u> 2 3 4 5 6 7 8 9 <u>10</u>	

...continue on the next page

Again, consider screening and brief intervention as part of your current role and within your present workplace.

Please rate how strongly you agree or disagree with the following statements by circling one number (1=strongly disagree, 10 =strongly agree)

<i>I am more <u>motivated</u> to conduct screening and brief interventions in my present role because:</i>		Strongly disagree	Strongly agree
48.	Health and media campaigns, in general, have made society more concerned about AOD use.	<u>1</u>	<u>10</u>
49.	Patients are requesting health advice about AOD use.	<u>1</u>	<u>10</u>
50.	Support services are readily available for referring patients to.	<u>1</u>	<u>10</u>
51.	There is good evidence that AOD screening and brief interventions are effective with young people.	<u>1</u>	<u>10</u>
52.	I have quick and easy screening questionnaires and intervention techniques available to me.	<u>1</u>	<u>10</u>
53.	Training in AOD screening and brief interventions will help me do my job better.	<u>1</u>	<u>10</u>
54.	Providing AOD screening and brief interventions will make a difference to the young people I care for.	<u>1</u>	<u>10</u>

**Thank for completing
this questionnaire.
Please hand it back
to the research team.**