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TREATING PROBLEM DRINKERS VIA MAIL:

A RANDOMISED CONTROLLED TRIAL OF TWO METHODS OF BRIEF INTERVENTIONS BY CORRESPONDENCE

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B.A., M.A., M.Phil., M.Psychol.,

A thesis submitted in fulfilment of the requirements for the degree of

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STATEMENT OF ORIGINALITY

I hereby declare that this thesis represents my original research and that, to the best of my knowledge and belief, it contains no material previously published or written by another person. The thesis was undertaken by the author in the Department of Psychology, University of Sydney; and The Royal Prince Alfred Hospital, Sydney, Australia. The author was responsible for the initiation and conduct of the work which was performed under the joint supervision of Associate Professor Soames Job (University of Sydney) and Associate Professor David Kavanagh (University of Queensland).

STATEMENT OF ETHICS

All subjects who participated in these studies gave informed consent. The protocols were approved by the Ethics Committee of the Royal Prince Alfred Hospital, Sydney, Australia.

Candidate's Certificate

This is to certify that the thesis entitled "TREATING PROBLEM DRINKERS VIA MAIL: A RANDOMISED CONTROLLED TRIAL OF TWO METHODS OF BRIEF INTERVENTIONS BY CORRESPONDENCE" has not been submitted for any other degree to any other university or institution of higher education. The source of the information herein is original and is solely the work of the author.

T. Sitharthan

Thiagarajan Sitharthan

Principal Supervisor's Certificate

This is to certify that the thesis entitled "TREATING PROBLEM DRINKERS VIA MAIL: A RANDOMISED CONTROLLED TRIAL OF TWO METHODS OF BRIEF INTERVENTIONS BY CORRESPONDENCE" is ready for examination.

Associate Professor Soames Job

Dedicated

To my family

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SUMMARY

The current project is reported in the thesis as Study 1 and Study 2. The primary aim of Study 1 was to evaluate the effectiveness of two forms of brief interventions offered via correspondence (mail) for people seeking assistance to reduce their drinking. One hundred and seventy-eight volunteer participants were randomly assigned to receive either a Cognitive-behavioural treatment that incorporated a self-directed cue-exposure and response prevention component (CBT+SCE), or to the Comprehensive Individual Assessment Feedback (CIAF) condition, or a 2-month Wait List condition (WL). Baseline assessment included the Problem Drinking Questionnaire (PDQ), the Severity of Alcohol Dependence Questionnaire Form C (SADQ-C), the Impaired Control Questionnaire (ICQ), the Controlled Drinking Self-efficacy Scale (CDSES), Outcome Expectancy Questionnaire (OEQ), and the Life Orientation Test (LOT). After 2-months, subjects who were initially assigned to the wait list condition were randomly assigned to receive either the Cognitive-behavioural treatment that incorporated a self-directed cue-exposure and response prevention component (CBT+SCE), or to the Comprehensive Individual

Assessment Feedback (CIAF) condition.

The primary data analysis was by intent-to-treat, which is deemed to be very conservative. As predicted, at 2 months, those assigned to the CBT+SCE and the CIAF conditions fared significantly better than those assigned to the WL condition in terms of reductions in the quantity and frequency of drinking. Similarly, those assigned to the CBT+SCE group fared significantly better than the CIAF group in terms of reductions in both quantity and frequency of drinking. At the 6-month follow-up, participants assigned to the CBT+SCE continued to sustain their improvements compared with the CIAF group in terms of reducing the amount and frequency of drinking.

Normative comparisons indicated that at follow-up, more subjects from the CBT+SCE condition were consuming alcohol at population norms, compared with those in the CIAF condition. Alcohol-related problems declined in both conditions. In terms of self-efficacy (CDSES), both the treatment conditions were significantly higher than those in the waiting list condition. At the 6-month follow-up, the self-

efficacy of those in the CBT+SCE condition was significantly higher than those in the CIAF condition. Similarly, on measures of alcohol dependence (SADQ-C) and impaired control over alcohol intake (ICQ), the CBT+SCE condition showed significant reductions from baseline to the 6-month follow-up, compared with the CIAF group.

A subsidiary interest was to identify the predictors of favourable treatment outcomes. A series of Regression analysis was undertaken to predict the Quantity and Frequency of drinking at (1) post treatment and (2) at follow-up. After control for effects of treatment conditions, Post treatment consumption quantity and frequency were significantly predicted by pretreatment drinking levels and optimism. At follow-up, after control for effects of treatment conditions, post treatment self-efficacy and optimism significantly predicted alcohol consumption. Separate regression analyses were undertaken to investigate the relative predictive strength of pretreatment SADQ-C, pretreatment ICQ, pretreatment CDSES, and posttreatment CDSES. Participants in the CBT+SCE condition who received immediate treatment, and had high optimism and high post self-efficacy scores, had lower quantity and

frequency of drinking over follow-up.

The aims of Study 2 were to explore the factor structure of the Controlled Drinking Self-efficacy Scale (CDSES), examine the gender differences on the CDSES, and inspect the relationship between self-efficacy and alcohol dependence (that is, mild-moderate vs. severe dependence). Six hundred and fifty-two self-referred problem drinkers were administered the CDSES and other relevant measures such as the Severity of Alcohol Dependence Questionnaire - Form C (SADQ-C), the Impaired Control Scale (ICQ), and the Problem Drinking Questionnaire (PDQ). The results indicate that the CDSES is highly reliable and the factor analysis using the full sample identified four factors which were labelled Negative Affect, Positive Mood/Social Context, Frequency of Drinking, and Consumption Quantity. A similar factor structure was obtained for a separate factor analysis undertaken for men. Only three factors emerged in the analysis of data on female participants, with the Frequency of Drinking and Consumption Quantity collapsing into one factor. Compared to women, men had low self-efficacy to control their drinking in situations relating to positive mood/

social context, and subjects with high alcohol dependence had low self-efficacy for situations relating to negative affect, social situations and drinking less frequently.

The implications of offering a correspondence treatment program and the role of CDSES in treatment planning are discussed.

CHAPTER 1. INTRODUCTION AND A CONCISE REVIEW OF THE LITERATURE

The medical and psychosocial consequences of excessive alcohol consumption are cause for serious concern worldwide. It is estimated that the economic costs of alcohol misuse, calculated in terms of absenteeism from workplace, accidents, legal expenditure, alcohol related illness, and premature death, amounts to more than $4.5 billion per annum in Australia (Australian Department of Health and Aged Care, 2001), over £2,400 million per annum in England and Wales (Godfrey and Maynard, 1995), more than $100 billion per annum in the United States of America (Angell and Kassirer, 1994), and over $7.5 billion in Canada (Single, Robson, Xie and Rehm, 1998).

The main contributors to these costs are *problem drinkers* (ie: those who frequently drink excessive quantities of alcohol and may experience alcohol related problems, but show no signs of physical dependence), rather than people who are *physically dependent* on alcohol (ie: individuals who experience withdrawals when they cease drinking, typically drink to avoid withdrawals, and orient their lifestyle increasingly around alcohol) (Sobell and Sobell,1993). Although the ratio of problem drinkers to those who are physically dependent on alcohol is 4:1 (Cahalan, 1987; Fillmore and Midanik, 1984; Hilton, 1987; Institute of Medicine, 1990), the majority of treatment services often target dependent drinkers. This almost exclusive focus on

severely dependent drinkers constitutes an imbalance in the provision of services (Sobell and Sobell, 1993), and raises serious questions about the cost-effectiveness of investments in the inpatient treatment of alcohol dependence (Annis,1986; Miller and Hester, 1986). It is also estimated that only 1 in 10 individuals who need services for alcohol problems actually receive any form of treatment (Grant, Harford, Dawson, Chou, Dufour and Pickering, 1994), because of geographic barriers, barriers accessing alcohol treatment services, and stigma ("Improving the Delivery of Alcohol Treatment and Prevention Services", 1997). It is imperative to find new methods of recruitment and delivery of treatment that would assist problem drinkers who (a) do not wish to come to a treatment agency, (b) cannot come to a traditional alcohol treatment agency and / or (c) who do not wish to give up alcohol completely (total abstinence).

In the following sections a focussed review of the treatment for alcohol problems will be presented. This will be followed by a review of the impact of brief interventions for alcohol problems, the use of self-help manuals to manage drinking problems, correspondence approaches to reduce excessive drinking, exposure-based approaches, prediction of controlled drinking, and a brief review of alcohol specific self-efficacy scales.

1.1 TREATMENT FOR DRINKING PROBLEMS: A FOCUSSED REVIEW OF THE MOST RELEVANT LITERATURE

Research on treatments for alcohol problems has progressed from focussing on global effectiveness (Emrick, 1975), to testing specific treatment modalities (Miller et al, 1995), determining the cost-effectiveness of treatment (Finney and Monahan, 1996; Holder et al, 1991), examining methodological characteristics (Morley et al, 1996), and attempting to match treatments to specific patient characteristics (Project MATCH, 1997).

Several reviews are available addressing the *method effectiveness* of treatments for alcohol problems (American Psychiatric Association, 1995; Carey and Maisto, 1987; Institute of Medicine, 1990; Lindstrom, 1992; McCrady and Langenbucher, 1996; Miller and Hester, 1986; Miller, Brown, Simpson, Handmaker, Bien, Luckie, Montgomery, Hester and Tonigan, 1995; Riley, Sobell, Leo, Sobell and Klajner,1987; Saunders, Sitharthan, and Krabman, 2000), the *cost-effectiveness* of treatments for alcohol problems (Finney and Monahan, 1996; Holder, Longabaugh, Miller and Rubonis, 1991, Saxe, Dougherty and Esty, 1985), and the *methodological characteristics* and *quality of treatment* outcome research (Floyd, Monahan, Finney and Morley, 1996; Morley, Finney, Monahan and Floyd, 1996).

In perhaps the earliest review of the treatment effectiveness for alcohol problems, Voegtlin and Lemere (1942) reviewed more than 100 studies that appeared in the clinical literature between 1909 and 1940. They concluded that none of the treatments then available were effective. Emrick (1974) reviewed 271 studies published between 1952 and 1971 and noted that 67% of the 14,000 patients in these studies either improved or were abstinent at follow-up. He also concluded that if alcoholic's decided to do something about their drinking and accepted help, they stood a good chance of improving. However, Emrick's review found no evidence that one treatment modality was more effective than another.

Emrick (1975) reviewed 384 studies and concluded that in general treatment was more effective than no treatment, and that treatment primarily reduced alcohol consumption rather than enhance the rates of total abstinence. Emrick (1979) later reviewed 90 studies that used random assignment of patients to two or more treatments and concluded that:
(a) there was more evidence in favour of behavioural approaches, and
(b) brief interventions for alcohol problems were as successful as longer interventions.

Carey and Maisto (1985) reviewed the use of self-control techniques in the treatment of alcohol abuse (i.e. training aimed at drinking in moderation) and pointed out that several studies are plagued with shortcomings, including high attrition rates (e.g. Caddy and Lovibond, 1976), non-inclusion of comparative / control groups (e.g. Miller, Pechacek and Hamburg, 1981; Miller, Gribskov and Mortell, 1981), non-reporting of follow-up data (e.g. Alden, 1978), and non-random assignment of the recruited sample (e.g. Miller and Taylor, 1980). However, it should be pointed out that later trials have attempted to overcome several of these shortcomings. For example, investigations conducted by Sanchez-Craig, Annis, Bornet and MacDonald (1984) and Alden (1988) have included comparative groups, randomly assigned subjects, had follow-up periods up to two years, employed multiple outcome measures and have yielded impressive results.

Riley et al (1987) reviewed 68 studies published between 1978 and 1983 that had a minimum six months of outcome data, and concluded that treatments for alcohol problems with enduring effectiveness do not exist, regardless of treatment orientations or treatment goals.

More favourable outcomes were reported by Miller et al (1995) who reviewed 211 controlled trials that contrasted different treatments and noted a positive treatment effect in 146 (69%) of them. In general, there is

supportive evidence in favour of brief interventions (Bien, Miller and Tonigan, 1993), behavioural self-control training (Walitzer and Connors, 1999; Walters, 2000), behavioural martial therapy (McCrady, Stout, Noel, Abrams and Nelso, 1991), community reinforcement training (Azrin et al, 1982; Miller, Meyers and Hiller-Sturmhofel, 1999), and cognitive-behavioural relapse prevention approaches (Irvin, Bowers, Dunn, and Wang, 1999). However, other treatments, including intensive inpatient treatments, have yet to demonstrate their effectiveness convincingly (American Psychiatric Association, 1995; Miller et al, 1995; Saunders, Sitharthan and Krabman, 2000), and / or are expensive to deliver (Finney and Monahan, 1996; Holder et al, 1991; Saxe et al, 1985).

Recently there has been an interest in attempting to match treatments to specific patient characteristics. Perhaps the most expansive and expensive clinical trial ever reported in the alcohol treatment literature is the Project MATCH study (Project MATCH,1997). This multi-centre clinical trial organized by the National Institute on Alcohol Abuse and Alcoholism took eight years to design and implement, and cost over US$27 million. The study included two groups of participants. One group represented the "aftercare" sample and was recruited from four facilities that provided aftercare services to patients who had received inpatient or day-hospital treatment, and therefore had received some kind of intensive treatment. The other group

represented the "outpatient" sample and was recruited from five outpatient facilities and comprised of patients who had not received prior intensive inpatient or day-hospital treatment. As a result of their varied treatment histories, the two groups differed in certain patient characteristics. For example, the aftercare patients were more severely alcohol dependent when entering the study than were the outpatients.

Overall, 30 treatment sites were involved in the project and 80 therapists were specially trained to execute the three types of treatments, namely; Cognitive-behavioural Coping Skills Training (CBT), Motivational Enhancement Therapy (MET), and Twelve-Step Facilitation Therapy (TSF). Project MATCH did not include any control groups. Although TSF was based on the principles of Alcoholics Anonymous (AA), it was an independent treatment designed to familiarize patients with the AA philosophy and to encourage participation. Volunteer alcoholics (alcohol dependent subjects) were recruited to take part in this study. Treatment manuals promoting abstinence were developed for each treatment condition, and treatment was delivered individually by qualified and specially trained therapists. All treatment sessions were videotaped. A battery of tests was administered to patients before and after treatment, and follow-ups were conducted at 3,6,9,12 and 15 months after treatment.

Participants assigned to receive coping skills training and the 12-step facilitation therapies were each scheduled twelve weekly sessions, while those assigned to the motivation enhancement therapy received four sessions spread over the 12-week period. However, many patients from all three treatment groups participated in community meetings of Alcoholics Anonymous. In addition, the participants assigned to the Twelve-Step Facilitation Therapy were provided routine "home work" tasks, which are not characteristic of self-help groups based on the 12-step philosophy such as Alcoholics Anonymous.

The primary goal of the Project MATCH study was to learn whether different types of alcoholics respond selectively to particular treatments. Specifically, the study tested several patient-treatment characteristics that appeared promising based on experimental evidence and / or theory. The patient characteristics included severity of alcohol involvement, cognitive impairment, psychiatric severity, conceptual level, gender, meaning-seeking, motivational readiness to change, social support for drinking versus abstinence, sociopathy, and typology of alcoholism. The findings of this study challenged the notion that patient-treatment matching is a prerequisite for effective alcoholism treatment. The trial confirmed only one of the hypothesized patient-treatment matches: patients with few or no psychological problems had significantly more abstinent days with TSF than

with CBT. The study did not confirm any other predictors, many of which were suggested by previous research.

To determine treatment efficacy, the study assessed several drinking-related variables. The primary variables which were analysed for the 90 days preceding treatment, the year following treatment, and the 90 days preceding the 3-year follow-up, were the percentage of days on which the participants were abstinent and the number of drinks consumed per drinking day. The study found that the aftercare sample generally achieved better treatment results than did the outpatient sample. For example, at the 1-year follow-up, 35% of the aftercare patients had remained continuously abstinent, compared with 20% of the outpatient sample. Similarly, a higher percentage of the aftercare sample than of the outpatient sample was abstinent between 9 and 12 months after treatment or was drinking moderately without problems during that period. It should be noted that because the patients were not randomly assigned to either the aftercare or outpatient sample, one cannot conclude that aftercare was superior to outpatient treatment. Instead, a variety of factors may help to explain why the aftercare patients more commonly achieved continuous abstinence. For example, the total amount of care received may have contributed to treatment outcome, because the aftercare patients had received previous care in addition to the treatment offered as part of the study. Alternatively,

the period of enforced abstinence that the aftercare patients experienced during their inpatient treatment may have had a beneficial effect.

In the aftercare sample, no differences were found in the efficacy of CBT, MET and TSF during the year following treatment. Similarly, very few differences emerged in the efficacy of the treatments among the outpatients. The small differences that did emerge usually indicated that TSF was most efficacious. For example, significantly more TSF-treated outpatients (24%) than either MET-or CBT-treated outpatients(14% and 15% respectively) were continuously abstinent for one year after treatment (Project MATCH Research Group, 1997). Similarly, the abstinence rate during the preceding 90-days both at the 1- and 3-year follow-ups was slightly higher among the TSF-treated outpatients than the CBT- and the MET-treated outpatients (Project MATCH Research Group, 1998 a).

Some differences existed in the time course in which the three treatments improved the outpatients' drinking patterns, but no such differences existed among aftercare patients. During the 3 months of therapy, only 28% of the MET-treated outpatients, compared with 41% of the CBT- and TSF- treated outpatients, were continuously abstinent or drank moderately without problems (Project MATCH Research Group, 1998 b). However, during the 3-years following treatment, the percentage of abstinent

days and number of drinks per drinking day reported by the MET-treated outpatients was comparable with those of the CBT- and TSF-treated outpatients. These findings suggest that patients may achieve control over their drinking problems more slowly with the less directive MET approach than with the CBT or TSF approaches, but nevertheless experience long-term outcomes comparable with those of the other two therapies.

In all three treatment conditions, patients showed decreases in depression and alcohol-related problems and improved liver functions. It should be noted that patients in all three conditions attended an average of only two-thirds of their scheduled treatment sessions. This finding has significant implications, as those who attended only two-thirds of the MET (total scheduled sessions = 4), were as good as those who attended CBT and TSF (total scheduled sessions = 12). In addition, the costs of delivering MET (calculated in terms of clinical, administrative, training and supervision) per patient was $512, while for TSF and CBT it was $750 and $788 respectively. The cost savings for MET over TSF was $238 and MET over CBT was $276.

While the Project MATCH study had many strengths, the results it obtained cannot readily be generalised to standard alcohol treatment settings for the following reasons:

1. Participants who took part in the Project MATCH trial were volunteers and highly motivated. Of the 4,481 potential participants identified, only 1800 agreed to participate. A further 459 declined to participate due to inconvenience. Thus, those who ended up to were highly motivated. In contrast, patients who attend alcohol treatment agencies are sometimes coerced to receive treatment for various reasons (e.g. by their family or legal system).

2. Project MATCH excluded potential participants if they had pending legal problems, failed to complete the assessment battery, or had indications of residential instability. By contrast, it is common for many patients who attend standard treatment agencies to exhibit some or all these features. Homeless patients, patients with current legal problems, and those who do not complete assessments (due to poor motivation or inadequate literacy skills) are included to receive treatment by community alcohol treatment agencies.

3. All participants selected for Project MATCH received extensive pretreatment assessments, approximating four to six hours. Such a thorough assessment is rarely conducted by community treatment agencies due to time restrictions and/or non-availability of trained staff.

4. Participants who were dependent on other drugs (e.g. heroin) were not included in Project MATCH. In standard treatment settings, it is common for patients to be dependent on other substances and be offered assistance.

5. Manualised treatments were offered to patients who took part in the Project MATCH trial, and all treatment sessions were videotaped. The practice of using manualised treatments is not a common convention followed by standard treatment agencies. In addition, most treatment agencies cannot tape record treatment sessions (video or audio), due to lack of resources or for privacy reasons.

6. The Project MATCH staff were highly qualified, received special training to deliver treatment(s), and were supervised at regular intervals. Often the staff employed in standard treatment agencies are either former users, or have minimum qualifications in the health sciences. In addition, regular clinical supervision is generally not available to them due to time and financial restrictions.

7. Participants who took part in Project MATCH were aware that they would be followed up to 12 months after treatment, and they were assertively followed-up by the researchers. Most community treatment agencies do not follow-up clients.

Against this backdrop of issues, it is difficult to generalise the Project MATCH findings to the standard alcohol treatment agency.

In the next section, a concise review of the impact of brief intervention approaches to problem drinking is discussed.

1.2 BRIEF INTERVENTION PROCEDURES FOR PROBLEM DRINKING

Brief interventions for alcohol problems are usually delivered between one and three sessions, and may vary from 15 to 30 minutes (Saunders, Sitharthan, and Krabman, 2000). Typically, following a standardised brief assessment of the quantity and frequency of alcohol consumption and drinking related problems; patients are provided with feedback regarding excessive alcohol use and related problems, and through reflective listening are guided to weigh the pros and cons of continued use versus change. The patients are encouraged to self-monitor their alcohol use and introduced to simple cognitive and behavioural tips to reduce drinking (Babor, 1995; Sitharthan, Sitharthan, Kavanagh, & Saunders, in press).

The provision of brief or time-limited intervention to patients who drink excessive quantities of alcohol is a strategy that has been well investigated (e.g. Anti-Poika, Karaharju, Roine and Salaspuro, 1988; Babor and Grant, 1992; Bien et al, 1993; Chick, Lloyd and Crombie, 1988; Center for the Advancement of Health, 2000; Edwards, Orford, Egert, Guthrie, Hawker, Hensman, Mitcheson, Oppenheimer and Taylor, 1977; Fleming, Barry, Manwell, Johnson, and London,1997; Gentilello, Rivara, Donovan, Jurkovich, Daranciang, Dunn, Villavoces, Copass and Ries, 1999; Israel, Hollander, Sanchez-Craig, Booker, Miller, Gingrich and Rankin, 1996;

Kahan, Wilson and Becker, 1995; Kristenson, Ohlin, Hulten-Nosslin, Trell and Hood, 1983; Marlatt, Baer, Kivlahan, Dimeff, Larimer, Quigley, Somers, and Williams, 1998; Monti, Colby, Barnett, Spirito, Rohsenow, Myers, Wollard, and Lewandwer, 1999; Nilssen 1991; Ockene, Adams, Hurley, Wheeler, Hebert, 1999; Saunders, 1987; Saunders and Conigrave, 1990; Wallace, Cutler and Haines, 1988); and evidence supporting such interventions is well documented (e.g. Bien et al, 1993; Reid, Fiellin and O'Connor, 1999; Wilk, Jensen, and Havighurst, 1997).

In general, brief intervention trials are (a) based on sound methodology with emphasis on randomization of subjects, (e.g. Kristenson et al, 1983; Wallace et al,1988), (b) include a control or a comparative group (e.g. Fleming et al, 1997; Wallace et al, 1988), (c) in many cases have lengthy follow-ups (eg: Kristenson et al, 1983), (d) have simultaneously been evaluated from different sites (eg: Babor and Grant, 1992), (e) have generated data from a large group of participants (e.g. Babor and Grant, 1992), and (f) are significantly more effective and cost beneficial compared with other forms of treatments (Holder et al, 1991; Fiore, Fleming and Burns, 1999).

In eight of the nine controlled treatment trials reviewed by Holder et al (1991), brief interventions were found to be effective. Reviews by Babor

(1995) and Bien et al (1993) demonstrated that brief interventions are: (1) more effective than no intervention condition in terms of alcohol use, general health and social functioning, (2) often are as effective as intensive long term treatments, and (3) increase the effectiveness of later additional treatments.

In a meta-analysis of 32 brief intervention studies, Bien and his colleagues reported that the average positive change observed for intervention groups was about 27 percent. Positive changes were also observed for control groups, suggesting that the assessment of drinking behaviour and related problems may, in itself, have led motivated patients to alter their drinking behaviour. In another meta-analysis of randomized clinical trials, Wilk, Jensen and Havighurst (1997) calculated a pooled odds ratio of 1.95 (95% confidence interval, 1.66 to 2.30) for decreased drinking after a brief intervention as compared with no intervention.

One of the earliest trials that investigated the effectiveness of brief intervention was conducted by Edwards and his colleagues in 1977. In this trial, 100 alcohol-dependent married men were randomly assigned to receive a single session of treatment advice or multiple sessions of standard alcoholism treatment. Patients assigned to the single session treatment condition were informed that the responsibility to achieve abstinence rested

with them. This constructive advice was provided in a sympathetic manner, conducted conjointly with their wives, and directing them towards improving marital relationship and enhancing the husband's work record. In contrast, the patients assigned to the standard alcohol treatment condition received an introduction to Alcoholics Anonymous, were provided medication if deemed necessary, were treated by a Psychiatrist, and were offered admission to an inpatient clinic if they did not respond to the treatment. Follow-up results indicated that there were no significant differences between the two groups on any outcome measure. Additional follow-up several years later confirmed the early findings (Edwards, Duckitt, Oppenheimer, Shehan and Taylor,1983). In a re-analysis of the original first year data set, Edwards and Taylor (1994) noted that even individuals with severe alcohol problems did well with a one-session treatment. However, this trial did not include a control group and there were no female participants.

In another trial conducted in Sweden by Kristenson et al (1983), 585 middle-aged male residents (age 46-49years) identified as heavy drinkers from a general hospital were invited to participate in a health screening project. Subjects with an abnormal liver enzyme (gamma-glutamyl transpeptidase) were randomly assigned to a brief counselling or a control condition. Those assigned to the brief intervention condition were counselled

by a physician to reduce their drinking, received medical checks from a nurse on a monthly basis, and were followed by the physician quarterly. Alternatively, those assigned to the control condition were simply informed of their elevated test result by mail, and were followed up every other year. Those assigned to the brief intervention condition showed greater reductions in gamma-glutamyl transpeptidase, and improved in terms of the number of days sick, days hospitalised, absenteeism, and half the mortality rate of the control group in the 6-year follow-up. A highlight of this trial was the use of liver function tests to corroborate self-reports. However, this trial did not report any drinking outcome data, nor did it include female participants.

Wallace, Cutler and Haines (1988) compared the effects of "simple advice" and "no advice" in a cohort of 909 excessive drinkers (i.e. men who drank more than 35 or more standard drinks per week, and women who drank 21 or more standard drinks per week). Participants were recruited from 47 British general practices. Simple advice included advice regarding the effects of alcohol, patient education and a prescription on "how to cut down your drinking". Simple advice resulted in significantly greater reductions in drinking per week compared with the no advice group among both men and women (men decreased from 35 to18 drinks per week , and women decreased from 21 to 6 drinks per week).

A World Health Organization sponsored multi-centre trial, conducted in Australia, Bulgaria, Cost Rica, Kenya, Mexico, Norway, the former Soviet Union, United Kingdom, the United States of America, and Zimbabwe also provided convincing evidence that brief advice is effective in reducing alcohol consumption among non-dependent heavy drinkers recruited from general hospitals, general health care settings and work sites (Babor and Grant, 1992). Heavy drinkers (1260 males and 299 females) with no prior history of physical dependence on alcohol were randomly assigned to a control group, a simple advice group, or to a group receiving brief counselling.

Those assigned to the control condition received a 20-minute health interview. Participants assigned to the simple advice condition also received the same health interview, plus 5-minutes of advice about the importance of sensible drinking or abstinence, and a simple leaflet discussing the same. Sensible drinking limits were discussed if the subject preferred a non-abstinence goal.

Those assigned to the brief counselling condition received the same information as the simple advice group and an additional 15 minutes of counselling about drinking. They also received a 30-page illustrated problem-solving manual that discussed the benefits of moderate drinking or

abstinence, methods to cope in high-risk situations, and suggested alternative activities to drinking.

The results of this investigation suggested that both the simple advice group and the brief counselling group did significantly better than the control group in terms of reductions in drinking. However, the 5-minute simple advice group was as effective as the 20-minute brief counselling group. In essence, it implies that for this population of heavy drinkers, behaviour change is a result of motivational factors and social influence, rather than the skills training components typically used in behavioural self-control training programs (WHO Brief Intervention Study Group, 1996).

More recently, Fleming, Barry, Manwell, Johnson, and London (1997) tested the effectiveness of brief intervention offered by physicians. The trail (Project TrEAT - Trial for Early Alcohol Treatment) demonstrated that brief physician involvement can substantially reduce alcohol consumption and health resource utilisation among problem drinkers. In this trial, sixty-four physicians from 17 community-based primary care practices took part in an opportunistic intervention. Routine opportunistic screening using a brief questionnaire on drinking habits detected 2,450 problem drinkers from 17,695 patients. Of the 2,450 patients who were identified (i.e men who drank more than 14 drinks or 168 grams of alcohol and women

who drank more than 11 drinks or 121 grams of alcohol each week, and those who drank more than 5 drinks on at least four occasions in the prior month); 1,705 subsequently completed face-to-face interviews in a physician's office. The 774 patients who met all the inclusion criteria and agreed to participate were randomly assigned to the experimental and control conditions and assessed at 6 and 12 months.

Patients in the experimental group were scheduled for two 15-minute sessions one month apart with their physicians. The intervention protocol used during those sessions included a workbook with feedback regarding current health behaviours, information on alcohol effects and problem drinking, a goals sheet, a workbook on drinking cues, and self-monitoring materials. Physicians were trained in general skills techniques, based on the principles of behaviour therapy, in a relatively short period. Participants assigned to the control condition received a health booklet on general health issues and were advised to address concerns in their usual manner.

Large reductions in drinking practice measures were observed at 6 and 12-month follow-up in both men and women who received treatment. At 12 months men in the treatment group showed a 14% reduction in alcohol use, and women in the same group showed a 31% reduction. Both men and women showed sizeable reductions in excessive and binge drinking

episodes. Although the control group experienced reductions on drinking practice measures, patients in the treatment group were twice as likely to reduce their drinking by 20% or more.

On health care utilization measures, neither men nor women experienced significantly different numbers of emergency room visits during the course of the study or relative to intervention status. Nor was a change observed for either group in other measures of health status. However, men in the control group experienced substantially longer hospitalisations than men in the intervention group. The authors called this effect "the first direct evidence of decreases in the utilization of U.S. health services as a result of physician intervention with problem drinkers". Overall, significant reductions in alcohol use, episodes of binge drinking, frequency of excessive drinking, and use of health resources were observed in the treatment group compared with the control group.

Using the sample of patients who participated in Project TrEAT (Fleming, Mundt, French, Manwell, Stauffacher and Barry, 2000), undertook a benefit-cost analysis. Patient and health care costs associated with brief intervention was compared to economic benefits associated with changes in health care utilization (emergency department visits, hospital days), legal events, and motor vehicle accidents using 6- and 12-month follow-up data.

The total economic benefit of the brief intervention was $423,519 (95% CI: [$35,947, $884,848]), comprised of $195,448 (95% CI: [$36,734, $389,160]) in savings in emergency department and hospital use and $228,071 (95% CI: [- $191, 419, $757,303]) in avoided costs of crime and motor vehicle accidents. The average (per subject) benefit was $1,151 (95% CI: [$92, $2,257]). The estimated total economic cost of the intervention was $80,210, or $203 per subject. The benefit-cost ratio was 5.6:1 (95% CI: [0.4,11.0]), or $56,263 in total benefit for every $10,000 invested.

Fleming and his colleagues (1999) extended the application of brief intervention to older adults. This project (project GOAL - Guiding Older Adult Lifestyles) included the services of 43 family physicians and internists in Wisconsin. Of the 6073 patients screened, 105 men and 53 women met the inclusion criteria and agreed to participate and were randomly assigned to a control group (n=71) or an intervention group (n=87). Those assigned to the control group received a general health booklet and were followed up at 3, 6, and 12 months. Patients assigned to the intervention group received the same booklet and were assigned to see their physicians. The brief intervention protocol used by the physician included a workbook containing feedback on the patient's health behaviours, a review of problem drinking prevalence, reasons for drinking, adverse effects of alcohol, drinking cues, a drinking agreement in the form of a prescription, and drinking diary cards.

Two 10-15 minute visits were scheduled 1 month apart (a brief intervention and a reinforcement session). Each patient received one follow-up phone call from the clinic nurse 2 weeks after each visit.

Physicians completed a form following each intervention visit to document that the patient had received the protocol and had contracted to reduce his or her alcohol use. All patients assigned to the intervention group were followed-up at 3, 6, and 12 months, and family members were contacted at 12 months to corroborate the patient's self-reports.

Patients who received the intervention demonstrated a significant reduction in alcohol use, episodes of binge drinking, and frequency of excessive drinking ($p<.005$) compared with the control group at 3, 6, and 12 months after the intervention. There was a 34% reduction in alcohol use in the intervention group compared with the control group, a 74% reduction in the mean number of binge-drinking episodes, and a 62% reduction in the percentage of older adults drinking more than 21 standard drinks per week.

The previously discussed Project MATCH trial (1997) also lends support to the effectiveness of brief intervention, particularly with alcohol-dependent patients. Patients assigned to the Motivation Enhancement Therapy condition (MET) were scheduled to receive only four sessions of

treatment; compared to those assigned to the CBT and the TSF conditions, who were each scheduled to receive 12 sessions of individual treatment. At both one and three years after treatment, participants in all three groups reported drinking less often and consuming fewer drinks per drinking day, compared with their drinking before treatment. This finding supports the clinical impact of a brief intervention condition for alcohol-dependent subjects.

Brief intervention also increases subsequent appointment-keeping among alcoholics (alcohol dependent patients) who were identified in an emergency care setting. In one study, 65% of those who received brief counselling kept a subsequent appointment for specialized treatment, compared with 5% of those who did not receive such counselling (Chafetz, Blane, Abram, Golner, Lacy, McCourt, Clark and Meyers, 1962).

In summary, brief interventions for alcohol problems have been found to be effective in (1) assisting non-alcohol-dependent persons to reduce or stop drinking, (2) motivating alcohol-dependent patients to enter long-term treatment, and (3) assisting alcohol-dependent patients to abstain or reduce their drinking.

Although problem drinkers seem to benefit from brief interventions, attracting them to receive treatment and effective delivery of the same to a large number of problem drinkers is still a major issue. Recognising this limitation, Miller and Sovereign (1989) suggested that new methods of recruitment practices must be attempted. One such approach may be the use of self-help manuals.

In the next section, the role of self-help manuals in reducing problem drinking is discussed.

1.3 THE USE OF SELF-HELP MANUALS TO REDUCE DRINKING

Typically, a self-help manual would consist of materials to assist patients to cut down their drinking. While a large segment of the population can be reached through such an approach (Scogin, Bynum, Stephens, and Caloon,1990), mere distribution of self-help manuals produces little behaviour change among smokers and problem drinkers (Glasgow and Rosen, 1978; Gould and Clum, 1993; Rosen, 1993).The meta-analysis of self-help treatment approaches for problem drinking estimates an effect size of 0.15 (Gould and Clum, 1993), which by convention is deemed as a small effect.

There are other notable issues relevant to manual-assisted interventions. One issue is the low engagement rate that is typical of these studies. For example, only 29% (N=72) of the 576 subjects recruited to participate in a manual assisted treatment program (Heather, Kissoon-Singh & Fenton, 1990) actually entered the study. Such high drop out rates even prior to the commencement of the study cast serious doubts regarding the attraction of such treatment programs and the generalizability of reported outcomes.

Another problem is non-compliance. For example, only 64% of the subjects who took part in a manual-assisted treatment program (Heather,

Robertson, MacPherson, Allsop & Fulton, 1987) reported actually reading the controlled drinking treatment manual. Compliance issues are also evident in terms of completing homework assignments and returning them to the therapists. In other bibliotherapy trials (e.g. Miller and Taylor, 1980; Miller, Gribskov and Mortell, 1981), the lack of control groups and lack of evidence that bibliotherapy subjects actually used the manual, make it difficult to demonstrate the effectiveness of self-help manuals.

In a recent investigation, Sanchez-Craig, Davila and Cooper (1996) randomly assigned problem drinkers recruited via newspaper advertisements to one of the following two conditions: (1) receive a self-help book by mail or (2) receive a self-help book by mail plus engage in a 30-minute motivational assessment. The self-help book outlined a five-step change process:

(a) taking personal stock, (b) coping with temptation, (c) setting goals,

(d) using cognitive and behavioural strategies to change drinking habits, and

(e) methods to maintain change. Those participants assigned to receive the self-help book and a 30-minute motivational assessment were interviewed in a nonjudgmental manner, in which the therapist pointed out the benefits of eliminating heavy drinking days, advised them to follow the strategies recommended in the book and informed that people who were motivated like themselves had successfully cut down or quit by using the strategies

explained in the self-help book.

At 3-month follow-up, 65% of participants assigned to the assessment + book condition and 43% of those assigned to the assessment only condition were considered to be drinking at moderate levels. However, at 12-months, there was no effect of condition, but more women than men were rated as drinking in moderation (71% vs 52%).

It should be noted that this trial did not include a control condition. In addition, while the investigators asked the participants whether they read the manual completely, they did not attempt to test and verify the level of their comprehension to the written material they received.

In the next section, a brief review of correspondence approaches to reducing excessive drinking is presented.

1.4 CORRESPONDENCE APPROACHES TO PROBLEM DRINKING

The limitations highlighted above clearly espouse the need to offer effective treatment to large numbers of people on a community-wide basis at a reasonable cost. One public health approach that has been shown to have some potential is one based on correspondence-based self-change programs. In correspondence programs individuals who are interested in changing their behaviours receive a series of structured guidelines by mail (Jeffrey, Hellerstedt and Schmidt, 1990). Such programs are similar to clinic programs in educational content and in providing recurring prompts or cues to action. Some correspondence interventions have been shown to be as effective as clinic based programs in producing weight loss and assisting nicotine dependent clients to give up smoking (Altman, Flora, Fortmann and Farquhar,1987; Jeffrey, Gerber, Rosenthal and Lindquist, 1982; Leermakers, Anglin and Wing, 1998).

Until recently, there was no published report evaluating the application and effectiveness of such methods of intervention for problem drinkers. Sitharthan, Kavanagh and Sayer (1996) attempted the first application of this method of intervention to self-referred problem drinkers. In this trial, details of the correspondence program was released to newspapers and electronic media. The intervention was described as a free and confidential program for anyone above the age of 18 years who realised that they were drinking too

much, and wished to cut down "on their own". It was mentioned that this program may not be suitable for anyone who thought that they are an alcoholic, and for women who are currently pregnant or planning pregnancy in the near future. Also included was the information that this program was not suitable for people who had been warned by their doctor not to drink for health-related reasons, and for those who were on prescribed medications with a clear warning not to drink.

Inquirers were sent an assessment package which consisted of: (1) the Problem Drinkers Questionnaire PDQ (Sitharthan, Kavanagh and Sayer, 1996, Sitharthan et al, 1997), (2) the Severity of Alcohol Dependence Questionnaire - Form C (SADQ-C) (Stockwell, Sitharthan, McGrath, and Lang, 1994), (3) the Impaired Control Questionnaire (ICQ) (Stockwell et al, 1994), (4) the Controlled Drinking Self-efficacy Scale (CDSES) (Sitharthan et al, 1996), and (5) the Readiness to Change Questionnaire (RCQ) (Rollnick, Heather, Gold and Hall, 1992).

After the returned questionnaires were verified, and if the participants were deemed eligible to take part, they were randomly assigned to receive a cognitive-behaviour treatment program (CBT) or a minimal intervention (MI) condition. Those assigned to the MI condition received five letters over the first four months of the study. They were provided simple information about

the harmful effects of alcohol, and self-monitoring cards to record their drinking. They were instructed to record their alcohol use and post the completed self-monitoring cards, every fortnight, back to the researchers. They were not provided any treatment information that can be construed as cognitive-behavioural. After four months, those in the MI condition received the CBT component.

Those assigned to the CBT programme also received five letters over the first four month period. The CBT programme was based on the intervention reported by Sitharthan and Kavanagh (1990). Participants received material similar to the MI condition, but also received information on how to control their drinking. These included goal setting, identifying high-risk situations and planning ahead, problem solving, dealing with urges and temptations, relapse prevention and lifestyle modification tips. Participants in this group were also instructed to record their alcohol use and post the completed self-monitoring cards, every fortnight, back to the researchers.

A total of 121 participants (51 in the MI condition, and 70 in the CBT condition) completed at least 30% of the intervention and were available for follow-up. As hypothesised, CBT was more effective than MI in reducing alcohol consumption over the 4-month comparison period. CBT produced a 50% fall in consumption, bringing the average intake of subjects within

recommended maximum levels (see Table 1). The treatment gains were well maintained to 12 months. Problems associated with drinking, though not totally eliminated, reduced significantly (see Table 2).

Table 1 Self-monitored weekly alcohol consumption (in standard drinks) (Sitharthan et al, 1996)

	Women			Men		
	M	**(SD)**	**n**	**M**	**(SD)**	**n**
Minimal Intervention (MI)						
Pretest	36.4	(16.2)	22	56.3	(28.7)	29
4 months	23.7	(10.3)	22	37.2	(24.4)	29
6 months	16.9	(10.7)	19	32.8	(20.8)	25
12 months	22.9	(10.7)	19	26.4	(17.6)	21
Full Correspondence Intervention (CBT)						
Pretest	36.2	(20.3)	29	47.4	(29.3)	41
4 months	16.4	(10.5)	29	24.7	(16.8)	41
6 months	14.0	(11.7)	24	26.2	(19.2)	33
12 months	16.2	(13.5)	22	23.3	(15.3)	28

Table 2 Problems associated with alcohol use (Sitharthan et al, 1996)

	Median response - past 6 months		
	Pretest	**6 Months**	**12 Months**
Usual number of drinks	7-9	5-5***	5-6***
Consumption > 10 drinks	Once a week	<Once a month	<Once a month***
Consumption > 15 drinks	<Once a month	Never*	Never*
Longest period of continuous drinking	8 hours	6 hours***	5 hours***
Longest period below 3 drinks a day	3 days	7 days***	7 days***
Early morning drinking	Never	Never	Never*
Guilt or remorse after drinking	Once a week	Once a month*	Once a month*
Unable to remember the night before	Once a month	<Once a month***	<Once a month***

Wilcoxon significance (in comparison with pretest):
*p<0.05;** p<0.001;***p<0.0001

	Median rates in previous 6 months		
	Pretest	**6 Months**	**12 Months**
Problems at work	31%	17%**	23%*
Lost a job	1%	0%	1%
Relationship problem	50%	31%*	43%*
Injured another person	9%	2%*	1%*
Trouble with the law	1%	1%	1%
Health problems	44%	24%**	16%**
Concern by others	71%	45%***	38%***

Sign test significance (in comparison with Pretest):
*p<0.05;** p<0.01;***p<0.001

A significant feature of this trial was the greater participation by females (42%).This compares very favourably to the proportion of female participation generally seen in alcohol treatment agencies. For example, female participation in alcohol treatment agencies in Australia and North America are 17% (Webster and Jarvis, 1991) and 19% (Myers, Weissman, Tischler, Holzer, Leaf, Orvaschel, Anthony, Boyd, Burke, Kramer, and Stolzman, 1984) respectively. Vanicelli and Nash (1984) reviewed 259 studies involving patient participation, and out of a total of 64,000 subjects only 7.8% were females. In Bien et al's (1993) review of brief interventions for alcohol problems, female participation was 23%.

Another attractive feature was that a substantial proportion of participants who took part in the Sitharthan et al (1996) trial were from rural areas. This is particularly useful in Australia, given its large geographical area and relatively small population.

A novel feature of this trial was ascertaining the comprehension level of the participants. A hypothetical case study was developed and 28 questions were framed around this case. The questions included for example, how to calculate a standard drink (a standard drink in Australia is a drink containing approximately 10 grams of alcohol), reasons for self-monitoring, procedures to record accurately, procedures to identify a high-risk situation, use of the problem solving strategies framework, coping with lapses, and strategies for maintaining gains.

Of the 28 questions that assessed the participants' comprehension of the treatment material, 95.7% correctly answered at least 20 questions, and the mean score was 24.7 (SD=2.3, range=17-27). All participants correctly answered the question on how to calculate a standard drink. When asked how difficult they found it to understand the programme material (ratings 0 = "not at all difficult", to 100 = "very difficult"), only 5.2% of the participants rated it moderately difficult or above, and the mean rating was 7.4 (SD=16.1).

The participants were also asked to rate the utility of the clinical information they received and the frequency of their use. As can be seen from Table 3, most participants rated the information about self-monitoring, cognitive and behavioural strategies to cut down drinking, coping with difficult situations, and self reminders about goal, as the most preferred and used strategies. Consumer satisfaction was also very high. When asked if they would recommend the programme to others, (ratings 0 = "not al all" to 100 = "definitely") the mean was 83.8 (SD=21.4).

Table 3: Preference to and Frequency of use of clinical information, rated at six months (Sitharthan et al, 1996)

Segment	% Rating moderately or very useful	% Reporting use often or nearly always
Effects of alcohol	78.1	24.0
Recording drinking	87.5	77.1
Coping with problem situations	80.2	66.2
Strategies to cut down	84.4	61.5
Alternate enjoyable activities	68.7	39.6
Incentives to achieve goal	66.3	30.2
Relapse prevention strategies	71.9	41.7
Reminders about self-choice of the drinking goal	81.2	74.0

This trial was not without limitations. Occasional binge drinking was still noticed, especially among men. Seventy-five percent of the men had consumed 10 or more standard drinks at some time during the follow-up period. Also, this investigation did not include a control group.

Following this trial, Kavanagh, Sitharthan, Spilsbury and Vignaendra (1999) attempted to replicate the earlier findings of superiority for CBT over self monitoring alone. This trial also attempted to investigate the effects of ongoing self-monitoring alone. Similar to the Sitharthan et al (1996) investigation, participants were recruited via media advertisements.

Those eligible to participate were randomly allocated to the following groups:

(1) Immediate Cognitive-Behavioural Treatment by correspondence (ICBT), or

(2) two months in a Waiting List followed by CBT (WL2-CBT) or

(3) two months of Self-monitoring followed by CBT (SM2-CBT), or

(4) Extended Self-monitoring (SM6-CBT).

The original intention of this study was to offer the last group (SM6-CBT) nothing more than self-monitoring. However as the trial progressed, participants in this group began to demand additional treatment, and therefore were also provided CBT after 6 months of mere self-monitoring.

The ICBT condition was similar to the Sitharthan et al (1996) study, except that the participants received three letters instead of five (reductions were in the number of letters, not the clinical material). Those in the SM2-CBT condition received one mailing that contained an 8-week supply of self-monitoring cards, with instructions to monitor their alcohol intake. After 2 months they received the same intervention as the ICBT group. The WL2-CBT participants were asked to wait for 2 months, after which they received ICBT. Those assigned to the SM6-CBT condition were supplied with self-monitoring cards similar to the SM2-CBT condition, and requested to continue monitoring.

Table 4 provides a comparison of the pretreatment drinking and related variables of the participants who took part in the Sitharthan et al (1996) and the Kavanagh et al (1999) trials.

Table 5 provides a comparison of outcomes in terms of quantity and frequency of drinking for the participants who took part in the Sitharthan et al (1996) and the Kavanagh et al (1999) trials.

As predicted, ICBT was far superior compared with the self-monitoring conditions or the waiting list condition. CBT had an additional benefit over self-monitoring, whether it was introduced immediately, 2-months following self-monitoring or 6-months after self-monitoring. Also, similar to the previous trial (i.e Sitharthan et al, 1996), (a) the effect of CBT was also well maintained at 4 and 12 months, (b) there was a large representation of female participants (51%), and (c) though binge drinking was substantially reduced, was not totally eliminated. For example, at pretreatment, 78% of the men and 48% of the women had reported drinking at least 10 standard drinks at least once a month. At 12 months, only 18% men and 8% women reported drinking at these levels.

Table 4 Characteristics of the subjects who participated in the Sitharthan et al (1996) and the Kavanagh et al (1999) trials.

	Trial 1 (Sitharthan et al,1996)	**Trial 2** (Kavanagh et al, 1999)
Mean Age	46 years (range 28-78)	44.5 years (range 22-74)
% Reporting daily Drinking	36%	33%
Frequency of Drinking Per Week	5.2 days	5.4 days
Usual Quantity of Consumption Per Week	44.8 standard drinks (SD = 26.2)	36.6 standard drinks (SD = 16.4)
ICQ Score	Mean = 7.97 SD = 3.03	Mean = 7.91 SD = 2.78
SADQ-C Score	Mean = 8.64 SD = 6.14	Mean = 8.8 SD = 5.97
Self-identified Alcohol Problems (in years)	6 Years Range = 0-27 Years	5.9 Years Range = 0-24
Longest Duration of Continuous Drinking (in hours)	Average = 8 Hours Range = 3 - 66 Hours	Average 11 Hours Range 2 - 27 Hours
Had 10 or More Standard Drinks at Least Once a Month	67%	63%
Had 15 or More Standard Drinks at Least Once a Week	15%	12%
Experienced Blackouts	# 84% had a blackout in the previous six months	# 80% had a blackout in the previous six months
	# 24% had a blackout experience at least once a week	# 20% had a blackout experience at least once a week
Attended AA at least once	22%	10%
% Who Never Sought Any Help/Assistance for their Drinking Problems before this trial	60%	90%

Table 5 Outcomes in terms of quantity and frequency of drinking - participants who took part in the Sitharthan et al (1996) and the Kavanagh et al (1999) trials.

	Trial 1 (Sitharthan et al, 1996)	**Trial 2** (Kavanagh et al, 1999)
Consumption at Pretest (Per Week)	44.8 Standard Drinks	36.6 Standard Drinks
Consumption at 12 Months Follow up (Per Week)	19.7 Standard Drinks	18.6 Standard Drinks
Frequency of Drinking (Days Per Week) at Pretest	5.2 Days	5.4 Days
Frequency of Drinking (Days Per Week) at 12 Months Follow up	4 Days	4 Days

Rather than send a series of letters by mail (i.e. a correspondence format) offering advice to change the drinking behaviour (e.g. Sitharthan et al, 1996; Kavanagh et al, 1999); a study conducted by Sobell, Cunningham, Sobell, Agarwal, Gavin, Leo, and Singh (1996) offered a single mailing of assessment feedback to promote change. In this study, participants were recruited in a manner similar to the Sitharthan et al (1996) and the Kavanagh et al (1999) trials. Those who were eligible to participate were randomly assigned to a Guided Self-Change Group (GSC) or a Educational Materials Control Group (EMC).

Those assigned to the GSC group were sent a 6-page personalised feedback summary. The feedback information was prepared from their responses to scales and questionnaires tapping into drinking and related measures. The feedback information was comprehensive and included: (a) the number of drinks consumed in the past 12 months, (b) estimated calorie intake, (c) economic costs associated with the purchase of alcoholic beverages, (d) a comparison of quantity and frequency of drinking compared with other adults in Canada, (e) the severity of alcohol problems based on the Alcohol Use Disorders Identification Test, (f) self-reported consequences of drinking, (g) problematic situations that may promote drinking, and (h) a decisional balance exercise evaluating the pros and cons of drinking. Participants were asked to think about the costs and benefits of changing or continuing their current drinking, understand the factors that affect their drinking decisions, and decide what they want to do about their current drinking.

Those assigned to the EMC condition did not receive any personalised feedback. Instead they received two pamphlets, one an informational brochure describing the nature of alcohol abuse and the other providing general advice on how to deal with alcohol problems. The results of this trial are not yet available (personal communication L. Sobell 8/11/1998).

It is encouraging from these preliminary trials that correspondence-based treatments are useful alternatives to clients who are interested in reducing their drinking.

In the next section, a brief discussion of the use of exposure-based treatments to reduce drinking is presented.

1.5 CUE EXPOSURE TREATMENT

Recently, there has been a renewed interest in applying exposure-based interventions to treat people with drinking problems. Exposure therapy is a widely used intervention method in the treatment of obsessive-compulsive disorder (OCD) (Marks, 1997) and posttraumatic stress disorder (Foa, 2000), and has been applied to reduce fear in adults (Marks and Reuven, 2000), and children (Sitharthan and Kaliappan, 1983). In the treatment of obsessive compulsive disorder, the patient is persuaded to (a) expose themselves daily to cues they avoid because they induce discomfort and rituals, and (b) stay in contact with those cues during the ensuing discomfort and not ritualize for at least an hour or until the discomfort slowly subsides (Marks, 1987).

When exposure and response prevention (ERP) was first developed, it was administered by therapists who selected the cues to which patients exposed themselves in imagination and in real life, and always accompanied their patients. Later versions, like assisting the patient to devise and perform their own ERP, that is, self-exposure and self-imposed response prevention (without the therapist accompanying them) have been found to be equally effective and less expensive to administer (Emmelkamp and Kraanen, 1977; Thornicroft, Colson and Marks, 1991).

Following this trend, many self-help manuals to guide OCD patients on how to perform ERP have been developed and tested (Marks, 1997). Similar manual assisted self-exposure treatments have been found to be effective in the treatment of recurrent nightmares (Burgess, Marks and Gill, 1994; Burgess, Gill and Marks, 1998).

It is clear from these above mentioned clinical trials, case studies, and clinical impressions, that clients can be assisted via mail (postal) to engage in self-exposure treatment (e.g. Burgess et al, 1994; Burgess et al, 1998), and that manual-assisted ERP is as effective as therapist assisted exposure therapy (Emmelkamp and Kraanen, 1977; Marks, 1997; Marks, Baer, Greist, Park, Bachofen, Nakagawa, Wenzel, Parkin, Manzos, Dottl, and Mantle, 1998).

While single case studies applying similar exposure therapy are available in the alcohol treatment literature (e.g. Blakey and Baker, 1980; Hodgson and Rankin, 1976), only recently did randomized controlled trials evaluating the effectiveness of cue exposure therapy become available (e.g. Dawe, Rees, Sitharthan, Mattick and Heather, in submission; Drummond and Glautier, 1994; Heather, Brodie, Wale, Wilkinson, Luce, Webb and McCarthy, 2000; Monti, Rohsenow, Rubonis, Niaura, Sirota, Colby, Goddard, and Abrams, 1993; Sitharthan, Sitharthan, Hough and Kavanagh,

1997). Typically, this involves exposing clients to alcohol-related cues such as sight and smell (e.g. Drummond and Glautier, 1994; Monti et al, 1993). In moderation drinking training, it also involves provision of priming doses of alcohol (e.g. Sitharthan et al, 1997; Sitharthan, Sitharthan and Kavanagh, 2001), and teaching them resistance skills to prevent further consumption of alcohol.

In the Monti et al trial (1993), inpatient male alcoholics were randomly assigned to receive standard hospital treatment or cue exposure. There were no significant differences between the groups in the first 3 months after treatment on any drinking-related variables. However, the participants in the cue-exposure group reported drinking less than those in the standard hospital treatment group during the second three months, and also reported a higher percentage of abstinence days. In the Drummond and Glautier trial (1994) inpatient male alcoholics were randomly assigned to receive cue exposure or relaxation training. They noted that cue exposure did not result in more participants being abstinent over the subsequent six months than did relaxation training, nor did the cue exposure participants take longer to have their first drink after treatment. However, they reported that the cue exposure group consumed less alcohol during follow-up and took longer to relapse. It should be noted that both these trails included only males, recruited and treated participants from inpatient treatment services, provided

individual therapy, and focussed on abstinence goals. In addition, while these trials used alcohol-related cues (i.e sight and smell of alcohol), no "priming doses" (i.e giving participants alcohol to drink) were provided to participants. In the Sitharthan et al trial (1997) both males and females were recruited, moderation drinking was the chosen goal, participants were treated as outpatients, group therapy was the chosen format, and priming doses were an integral part of the treatment. In addition, complete response prevention similar to OCD treatment was followed. Above all, cue exposure therapy (CE) was compared against cognitive-behavioural therapy (CBT), which sets a high standard for judging the effectiveness of CE. Results indicated that over the 6-month follow-up, participants in the cue exposure condition (n = 22) produced significantly greater reductions in drinking frequency and consumption levels compared with those in the than those in the CBT condition (n = 20).

The Heather et al trial (2000) was similar to the Sitharthan et al (1997) trial with participants receiving either cue exposure or CBT. However, in the Heather et al trial participants were treated individually and the response prevention component was not similar to the ones determined powerful in the OCD literature. A passive response prevention was used instead, with subjects informed that they could consume more alcohol after the priming doses, if they wished to. In the OCD treatment literature, this

type of passive response prevention is viewed inferior in producing behaviour change, compared with complete response prevention (Abramowitz, 1996). Heather et al concluded that CE was generally better than CBT, although the differences were non-significant. They suggested that a larger sample size may have demonstrated the superiority of CE over CBT.

It must be stressed at this point that none of the four available randomized trials (e.g. Drummond and Glautier, 1994; Heather et al, 2000; Monti et al, 1993; Sitharthan et al, 1997) have conducted cue exposure training in a uniformed manner. For example, in the Drummond and Glautier and the Monti et al trials, no priming doses of alcohol were provided to participants. Both Heather et al and Sitharthan et al did. In the Drummond and Glautier, Heather et al, and Monti et al trials, participants received individual therapy, while in the Sitharthan et al trial subjects were seen in small groups. In the Heather et al trial response prevention following priming doses were passive, while in the Sitharthan et al trial response prevention was assertive and complete.

There are no reports of any treatment programs for problem drinkers that incorporates self-exposure to alcohol-cues and response prevention delivered via a correspondence format, similar to those employed in the

treatment of OCD and recurrent nightmares.

In the following section, a brief discussion of some predictors of controlled drinking is presented.

1.6 PREDICTORS OF CONTROLLED DRINKING

Identifying who will do well in treatment and what factors are useful in predicting favourable outcomes is a sign of maturity in the treatment literature (Steketee and Chambless, 1992), and the literature in the problem drinking area is growing (e.g. Lindstrom, 1993; Project MATCH, 1997; Rosenberg, 1993).

In the following section, some factors that have been investigated in the prediction hypotheses, particularly for controlled drinking outcomes are summarized.

1.6.1. Demographic characteristics (age, gender, education and employment status)

These variables have been included in almost every study. While some investigators have reported an association between younger age and controlled drinking at follow-up (Polich, Armour and Braiker, 1981), others (Nordstrom and Berglund, 1987) have not confirmed this finding.

Similar mixed results are obtained for the sex factor. Helzer, Robins, Taylor, Carey, Miller, Combs-Orme and Farmer (1985) noted that more women compared with men had become controlled drinkers. Bromet and Moos (1979) observed the reverse, whilst Sitharthan and Kavanagh (1990)

observed no sex differences in outcome.

Miller and Joyce (1979) noted that level of education was not a significant predictor of controlled drinking, while Maisto, Sobell and Sobell (1980) reported less education to be associated with favourable controlled drinking. Being employed was generally a good predictor of whether the goal was abstinence or moderation drinking (Rosenberg, 1993).

1.6.2. Family history of drinking / genetic predisposition

Miller, Leckman, Delaney and Tinkcom (1992) reported that relatives of controlled drinkers had significantly fewer symptoms of alcoholism. This is in contrast to the findings of Elal-Lawrence, Slade and Dewey (1986) who noted that controlled drinkers more frequently had a positive family history of drinking problems.

1.6.3. Severity of alcohol dependence

The severity hypothesis suggests that the greater the alcoholic's physical dependence on alcohol, the less likely that he or she will be able to control alcohol consumption. In essence, this hypothesis promotes the notion that individuals who possess characteristics of mild/low dependence have a greater chance of achieving controlled drinking, than individuals who are severely / physically dependent on alcohol (Stockwell, 1988).

One of the first prospective studies to employ two measures of dependence in relation to the achievement of drinking goals was reported by Sitharthan and Kavanagh (1990). In this investigation, both the Severity of Alcohol Dependence Questionnaire (Stockwell, Hodgson, Edwards, Taylor and Rankin, 1979) and the Alcohol Dependence Scale (Skinner and Horn, 1984), were administered to a group of problem drinkers who specifically enrolled in a treatment program offering training in controlled drinking. Of these two measures only the Severity of Alcohol Dependence Questionnaire scores significantly correlated with reported weekly consumption at 6-month follow-up.

Others (e.g. Miller et al 1992) have reported that lower severity of dependence at intake was predictive of controlled drinking outcome. However, these studies did not employ any formal alcohol dependence measures as described by Davidson (1987). Instead, these studies employed the Michigan Alcoholism Screening Test (Selzer, 1971), which is not strictly a measure of alcohol dependence, but rather a general screening device for alcohol problems.

1.6.4. Persuasion hypothesis

Postulated by Orford and Keddie (1986) as a major alternative to the dependence hypothesis, the persuasion hypothesis states that more a

person is persuaded that one goal is possible for him or her, the greater the likelihood of attaining this goal. There are three reports in the literature that tested this hypothesis (Elal-Lawrence et al, 1986; Heather et al, 1983; Orford and Keddie, 1986). All of them failed to find a relationship between the severity of alcohol dependence score and subsequent achievement of a goal of controlled drinking or abstinence. However, Stockwell (1988) has argued that none of these three studies can be regarded as sound tests of the dependence/persuasion hypothesis, since they failed to assess the degree of dependence adequately or employed loose criteria for the attainment of controlled drinking.

1.6.5. Initial treatment response

Compared with the severity of alcohol dependence and other alcohol-related variables, consumption during the program (ie: during treatment phase) was found to be the best predictor of future drinking levels in one study (Sitharthan and Kavanagh, 1990). Similar results were obtained by Breslin, Sobell, Sobell, Bichan and Cunningham (1997). Breslin and his colleagues noted that compared with various drinking related variables and self-efficacy, the best predictor at 6 months was reports of drinking in treatment. That is, those who reduced their heavy drinking early in treatment did well.

1.6.6. Self-efficacy and Outcome expectancies

Social cognitive theory (Bandura, 1986, 1999) states that efficacy expectancy or the belief or confidence one has in executing specific behaviours is a reliable predictor of future behaviour; compared with outcome expectancy, which is a judgement of the likely consequences such behaviour will produce. An earlier review of the alcohol treatment literature with relevance to cognitive expectations could not identify a single controlled drinking study that had employed a self-efficacy measure or reported the predictive strength of this variable (Sitharthan, 1988; 1989). Sitharthan and Kavanagh (1990) reported the first controlled drinking study that had investigated the predictive strength of this variable through a newly developed controlled drinking self-efficacy measure. Post treatment self-efficacy significantly predicted consumption over the 6-month follow-up period, a finding consistent with Bandura's theory that self-efficacy has a determinative role in maintaining behavioural change. In a later study by Sitharthan et al (1997), self-efficacy at post treatment was the best predictor of the quantity and frequency of drinking behaviour at follow-up.

However, both the Sitharthan and Kavanagh (1990) and the Sitharthan et al (1997) studies did not include any outcome expectancy measure similar to the one developed by Annis (1994). This is particularly important as there is a difference of opinion over the relative strengths of

efficacy expectancy vs outcome expectancy in behaviour change. While Bandura (1996) posits that expectancy outcome are highly dependent on self-efficacy judgements and expected outcomes may not add much on their own to the prediction of behaviour, others like Kazdin (1978) have argued that both outcome and efficacy expectancy may be equally important.

One of the first study to investigate the predictive strength of both efficacy expectancy and outcome expectancies was conducted by Solomon and Annis (1990). They reported from their investigation that self-efficacy assessed at intake was strongly associated with the level of consumption at 3 month follow-up, but outcome expectancy did not predict consumption. However, this study used only male subjects recruited from an inpatient treatment facility that focussed exclusively on an abstinence goal.

1.6.7. Dispositional Optimism

Optimism has been associated with more effective coping, and in particular; soliciting social support, problem-focussed coping, and emphasising the positive aspects of a stressful situation (Scheier and Carver, 1985). A commonly observed fact in the treatment of alcohol problems is the high percentage of people who drop out of treatment or fail to complete it. Strack, Carver and Blaney (1987) observed that optimism as measured by the Life Orientation Test (LOT) (Scheier and Carver, 1985)

was a reliable predictor of whether stabilized alcoholics succeeded or failed at completing an aftercare treatment program. That is, people who were optimistic were more likely to complete the program, compared with pessimists. It should be noted that this study did not include any other pertinent variables such as severity of alcohol dependence, types and severity of alcohol-related problems, number of years of problem drinking, efficacy expectations and outcome expectations, and social support in the prediction analyses. In a subsequent study by Carver and Dunham (1991), optimism failed to predict renewed drinking. However, there are no reports from the controlled drinking treatment literature about the contributing role of this variable.

1.6.8. Other miscellaneous predictors

Being married, having a shorter history of drinking problems, fewer previous arrests, etc, are some of the other variables mentioned in the controlled drinking prediction literature (Rosenberg, 1993). However, none of these variables made any impact in predicting outcomes in the Kavanagh et al (1996), Kavanagh et al (1999), Sitharthan et al (1996) and the Sitharthan et al (1997) trials.

In the next section, a brief review of some alcohol specific self-efficacy scales is presented.

1. 7 Brief review of the literature of alcohol self-efficacy scales

Social cognitive theory (Bandura, 1977) has facilitated the acceptance of a biopsychosocial perspective by the alcohol field, by influencing our understanding of drinking behaviours, and assisting in planning interventions directed at predicting and preventing relapses.

Self-efficacy as applied to the alcohol field is the belief or perceived confidence in one's ability to effectively manage specific high-risk situations (Marlatt and Gordon, 1985). Perceived efficacy will determine what courses of action people will attempt, how hard they will try and how much they would persist despite setbacks (Bandura, 1977). Assessing the confidence not to drink in excess in an interpersonal or intra-personal high-risk situation can assist treatment planning (Annis and Davis, 1988; Marlatt and Gordon, 1985; Sitharthan, 1988, 1989). The concept of self-efficacy has repeatedly confirmed its usefulness as a predictor of sustained response to treatment for a range of problems including cigarette smoking and problem drinking (Condiotte and Lichtenstein, 1981; Kavanagh et al., 1993; Sitharthan and Kavanagh, 1990; Kavanagh et al., 1996).

Several self-efficacy measures have been developed to measure confidence in relation to problem drinking (Annis and Graham,1988; DiClemente, Carbonari, Montgomery and Hughes, 1994; Sitharthan and

Kavanagh, 1990; Young and Oei, 1996). The Situational Confidence Questionnaire (SCQ; Annis and Graham, 1988) is a well-known 39-item scale designed to measure the individuals' confidence to encounter different problematic situations. Clients are asked to imagine themselves in different situations (e.g. "*If I felt drowsy and wanted to stay alert*"), and asked to rate their ability to resist the urge to drink heavily on a six-point scale ranging from "*not at all confident*" (rated 0) to "*very confident*" (rated 100).

The Alcohol Abstinence Self-efficacy scale (AASE; DiClemente et al., 1994) is a 20-item scale designed to measure the temptation to drink and the confidence to abstain completely in different high-risk situations. Items such as "*When I dream about taking a drink*" are rated from "*not at all confident*" (which is rated 1) to "*extremely confident*" (which is given a rating of 5).

The Drinking Refusal Self-efficacy Questionnaire (DRSEQ; Young and Oei, 1996) is a 31-item scale. Clients are asked how sure they are that they can resist drinking any alcohol in various intra- and interpersonal situations (e.g."*When I want to look sophisticated*").The response categories range from "*I am very sure I could not resist drinking*"(which is given a rating of 1) to "*I am very sure I could resist drinking*" (which is given a rating of 6).

All the above-mentioned scales seek information regarding the clients confidence to face various difficult or tempting situations. However, none of them seek information about the client's confidence to reduce the overall consumption (quantity) of alcohol, or the confidence to reduce the frequency of drinking days. Another notable omission is that there is no provision in these scales to ask the client about their level of confidence to refrain from drinking for a given time period. That is, these scales do not seek information from the client regarding their confidence to refrain from drinking in various problematic situations over the next three or six months. Specific assessments of self-efficacy assist in the prediction of future behaviour (Bandura, 1986), and the identification of future problematic situations (Annis and Davis, 1988). More precise information on the situations that are seen as problematic for control can help the clinician train appropriate coping strategies (Marlatt and Gordon, 1985).

Furthermore, the AASE and the DRSEQ are primarily applicable to abstinence-oriented programs, as they do not seek specific information about the confidence to reduce the consumption and frequency of drinking. While abstinence may be a legitimate treatment goal for those who are physically dependent on alcohol, the ratio of problem drinkers to those who are physically dependent on alcohol is about 4:1 (Institute of Medicine, 1990; Sobell and Sobell, 1993). Most problem drinkers do not need to

abstain from alcohol, or prefer not to do so (Sanchez-Craig, and Lei, 1986; Sobell and Sobell, 1987). While some of these problem drinkers may exert control over alcohol by abstaining in more difficult situations, the focus on abstinence in AASE and DRSEQ significantly limits the applicability of these measures to the majority of clients.

While the SCQ can be used in moderation drinking programs, the general instruction used in this questionnaire, "I would be able to resist the urge to drink heavily" is vague, as drinking heavily can mean different things to different people. Indeed, part of the problem may arise from a liberal perception of what constitutes heavy drinking. A clear task definition, for example, asking the client if they can drink less than a specified amount (e.g. six standard drinks) in each problem situation, may avoid ambiguities.

The Problem Drinking Self-efficacy Scale (PDSES; Sitharthan and Kavanagh, 1990) was developed to ascertain the confidence to drink in moderation. The clients' confidence was questioned over a specific time frame (i.e the next six months), and clients were asked to rate their confidence to drink less than 6 standard drinks (a standard drink in Australia contains approximately 10 grams of alcohol). This fifteen-item measure was based on Marlatt and Gordon's (1980) list of high-risk situations. The scale assessed the subjects confidence in controlling intake in various intra and

interpersonal difficult situations (e.g. " [*Over the next six months*] - *How confident are you that you will not drink more than 6 standard drinks when you are at a party with friends*"?). All items were rated at intervals from 0 to 100, with 0 depicting "*not at all confident*" and 100 "*very confident*". This fifteen-item scale had an alpha coefficient of 0.82 and the corrected item-total correlations ranged from 0.25 to 0.60. Level of self-efficacy on the PDSES (i.e. number of items with 100% confidence) significantly predicted consumption six months following treatment r = -.35; (Sitharthan and Kavanagh, 1990). The scale added 6% to the predicted variance in consumption during follow-up, after duration of problem drinking and consumption during the alcohol treatment were taken into account. However, this scale did not seek information about the clients confidence to reduce the overall consumption or reduce the frequency of drinking occasions.

The Controlled Drinking Self-efficacy Scale (CDSES; Sitharthan et al., 1996; Sitharthan et al., 1997; Sitharthan et al, in press) is a 20-item self-efficacy measure based on the PDSES. Five extra items were added to the PDSES to assess the ability to reduce the overall consumption and reduce the frequency of drinking (e.g. "[*Over the next six months*] *How confident are you that you can stop drinking alcohol at least three days a week*?"). The ratings of all items ranged from 0 (*not at all confident*) to 100 (*very*

confident). In a recent treatment trial for alcohol problems, the total confidence score on the 20-item CDSES at Pre-Treatment significantly predicted alcohol consumption 12 months later (r = -.39; Kavanagh et al., 1996). The CDSES entered a multivariate prediction equation after Pre-treatment alcohol consumption, adding 5.5% to the predicted variance in consumption at 12 months. A second trial (Kavanagh et al., 1999) replicated the ability of the scale to predict consumption during follow-up, albeit with lower coefficients (e. g. predicting 4-month intake, r = -.25 contributing 3.5% to the predicted variance from Pre-treatment intake and treatment group).

However, the CDSES has never been subjected to factor analysis like the other self-efficacy measures reported above.

In the following section, the purpose for undertaking the present investigation is discussed.

CHAPTER 2. RATIONALE FOR THE PRESENT INVESTIGATION

As highlighted in the review sections, new methods of recruiting and treating problems drinkers are imperative. While brief interventions are effective (Bien et al, 1993), recruiting clients to treatment is still a problem (Grant et al, 1994). While correspondence approaches appear to be a useful option for some problem drinkers, and do reduce the overall quantity and frequency of drinking, considerable binge drinking is still prevalent during follow-up (Kavanagh et al, 1999; Sitharthan et al, 1996). It is also evident from the literature that there is a renewed interest in applying exposure based treatment for alcohol problems (Drummond and Glautier, 1994; Monti et al, 1993; Sitharthan et al, 1997; Sitharthan et al, 2001). Exposure based treatments seem to have an impact on people who have an impaired control over alcohol intake, but to-date, they have been applied in clinical settings under the guidance of a therapist. While the clinical literature of other psychological problems (e.g. OCD, recurrent nightmares) suggest that manual assisted self-exposure and self-imposed response prevention treatments were effective in the treatment of these conditions (Burgess et al, 1994; Burgess et al, 1998; Marks et al, 1998; Thornicroft et al, 1991), there are no reports in the alcohol literature that have made similar attempts with problem drinkers.

Hence, the primary purpose of the present investigation was to evaluate the impact of a self-exposure and self-imposed response prevention offered in a correspondence format for problem drinkers who wish to learn to reduce their drinking. This is particularly relevant as a key factor with many problem drinkers is their inability to stop drinking after consuming two or three drinks (Sitharthan et al, 1997; Stockwell et al, 1994). In addition, offering cue exposure training by correspondence for clients who cannot come to a clinic would be a logical extension of the Sitharthan et al's trial (1997) in which clients were seen in an outpatient treatment setting. To test the impact of the newly developed self guided exposure and response prevention program, it was planned to compare it against (1) a personalized assessment feedback condition, which is also thought to assist clients to reduce their drinking levels (Miller and Rollnick, 1991), and (2) a waiting list condition.

The alcohol literature indicates that raising problem awareness and providing personalized assessment feedback are important ingredients that promote change (Agostinelli, Brown and Miller,1995; Miller and Rollnick, 1991; Miller and Sanchez, 1993; Skinner, 1993). Miller and Rollnick (1991) propose that personal feedback of results from objective tests and measures can be persuasive input for convincing clients that they are not where they ought to be. They recommend that scores on each measure be

accompanied by an explanation as well as a comparison of the client's score with normative and other interpretive information. Miller and Rollnick (1991, page 97) cite Kristenson et al's (1983) investigation where medical patients were informed about their levels of gamma-glutamyltransferase (GGT), a liver enzyme that indicates excessive drinking. Patients in this investigation were provided information that their GGT levels were above the normal range, and that such elevations are predictive of long-term risks for disease and premature death. Citing Kristenson et al's study, Miller and Rollnick propose that in this instance both personal score and interpretive information were crucial to promote behavioural change. However, it should be noted that the Kristenson et al's study did not report any drinking outcome data, and in the absence of a no treatment control group, it is difficult to ascertain the impact of a feedback of assessment.

Agostinelli, Brown and Miller (1995) examined the effectiveness of providing undergraduate heavy drinkers with mailed normative feedback about the atypical nature of their alcohol use, as a strategy for motivating change in risky drinking behaviour. Twenty-six participants completed questionnaires that sought information about their drinking practices. They were then randomized to receive or not to receive personal feedback of their drinking relative to population norms. Results indicated that participants who received feedback showed greater reduction in weekly consumption and

typical intoxication levels, compared with those in the control condition. The authors concluded that a personal feedback intervention may be a cost-effective strategy for reducing risky drinking. However, the sample size of this study was small and the follow-up period of 6 weeks was relatively short.

In an unpublished report, Hickman (1999) randomly assigned 30 participants recruited from a community mental health centre to a brief assessment feedback condition vs a control condition. While the author noted that those in the assessment feedback condition drank less compared with the control condition, no follow-up data was presented.

The present study was an attempt to extend this line of investigation. That is, to investigate if mere personalised assessment feedback is sufficient to assist clients to reduce their drinking.

This study was the first investigation of its kind to compare a newly developed treatment package that combines Cognitive Behaviour Therapy plus Self-directed Cue-Exposure and Response Prevention (CBT+SCE) (4 mailings - once a fortnight), against a Comprehensive Individualised Assessment Feedback condition (one mailing providing personal assessment feedback of drinking and associated status), and a wait list

condition (2 months). Details of this investigation is presented in this thesis as Study 1.

As pointed out earlier in the review of alcohol specific self-efficacy scales, the Controlled Drinking Self-efficacy Scale (CDSES); (Sitharthan et al, 1996, Sitharthan et al, 1997; Sitharthan et al, in press) has never been subjected to factor analysis. Presented as Study 2 in this thesis is the investigation exploring the factor structure of the CDSES, gender differences on the CDSES, and the relationship between self-efficacy and alcohol dependence.

In the next section, some implications of offering treatment by correspondence are discussed, followed by the aims and hypotheses of the present investigation.

2.1 IMPLICATIONS OF INTERVENTIONS OFFERED BY CORRESPONDENCE

It is evident that most alcohol abusers do not seek treatment (Sobell, Sobell, Toneatto and Leo, 1993; Sobell, Cunningham and Sobell, 1996), and many problem drinkers do not receive assistance that meets their needs (Sobell and Sobell, 1993). As pointed out earlier, it is imperative to find new methods of recruitment and treatment for problem drinkers who are reluctant to come to a treatment agency and do not wish to pursue a goal of total abstinence. From the previously discussed studies it is clear that there are potential advantages for offering correspondence interventions to problem drinkers. These include the following:

(1) Clients who are reluctant to come to a treatment agency (e.g. because of stigma) and/or cannot come to a similar agency (e.g. because they live too far away, or because of time constraints) may benefit from such a program,

(2) Delivering such correspondence programs may attract early - low dependent problem drinkers who would otherwise be reluctant to seek assistance,

(3) Such programs can assist problem drinkers to cut down their alcohol consumption before it becomes worse,

(4) Many low dependent problem drinkers would be reluctant to abstain from alcohol, and a program that teaches controlled / moderate drinking may be

well received,

(5) More clients can be recruited into such programs compared with programs that offer face-to-face individual treatment,

(6) It may be cheaper to assist people to cut down their drinking levels through such programs than via intensive individual counselling,

(7) If correspondence treatment programs are effective and can be delivered to a large segment of the population at a low cost, they can be offered as a first line of intervention from alcohol treatment agencies (Sitharthan, Job, Sitharthan and Kavanagh, 1998). This notion conforms to the "stepped care" approach of offering treatment to problem drinkers as proposed by Sobell and Sobell (1993, 2000), and

(8) From a public health care perspective, if correspondence programs are effective, they can be translated into other languages to assist clients from non-English speaking backgrounds.

2.2 AIMS AND HYPOTHESES OF STUDY 1

The aims of Study 1 were to:

1. Evaluate the effectiveness of two forms of brief interventions offered via correspondence for people seeking assistance to reduce their drinking, &

2. Identify the predictors of favourable treatment outcomes.

AIM 1: Evaluate the effectiveness of two forms of brief interventions

An important feature of the current investigation was to evaluate a totally new correspondence treatment package that combined cognitive behavioural treatment (CBT) with self-directed cue exposure and response prevention (SCE) elements. As pointed out earlier, there are no reports of any treatment programs for problem drinkers that incorporates self-exposure to alcohol-cues and response prevention delivered via a correspondence format. The present trial was the first attempt to investigate the effectiveness of a treatment that combines cognitive-behavioural methods with self-directed cue-exposure and response prevention (CBT+SCE) and compare it against a comprehensive individual assessment feedback condition (CIAF) and a wait list condition (WL).

Aim 2: Identifying the predictors of favourable outcomes

In clinical trials, identification of the factors that predict moderation drinking is important (Rosenberg, 1993). Hence, variables relevant to excessive drinking (e.g. severity of alcohol dependence and impaired control) and self-regulation (e.g. self efficacy, outcome expectancy, and dispositional optimism) were investigated in this research project.

Hypotheses

There are several studies that attest the effectiveness of cognitive-behavioural interventions for problem drinkers seen in a clinic (Alden, 1988; Connors, Tarbox and Faillace, 1992; Harris and Miller, 1990; Sitharthan and Kavanagh, 1990). In addition, available evidence from cognitive behavioural correspondence treatments for smoking cessation, weight reduction, and problem drinking suggest that regular contact is an important ingredient in self-change programs (Jeffrey et al, 1982; Sitharthan et al, 1996; Kavanagh et al, 1999). There is some suggestion that the assessment of drinking and related behaviours (Babor and Grant, 1992; Miller, Benefield and Tonigan, 1993; Scott and Anderson, 1990); and the provision of assessment feedback (Sobell, Cunningham, Sobell, Agarwal, Gavin, Leo, and Singh, 1996) may reduce alcohol consumption.

These observations led to the formulation of the first two hypotheses :

Hypothesis 1: Participants receiving either correspondence treatment information based on an integrated Cognitive-behavioural and Self-directed Cue-exposure and Response prevention format (CBT+SCE) or Comprehensive Individual Assessment Feedback (CIAF), would show significant reductions in alcohol consumption and frequency of drinking, compared with participants in the waiting list group (WL).

Hypothesis 2: Participants receiving CBT+SCE would show significant reductions in alcohol consumption and frequency of drinking, compared with participants in the Comprehensive Individual Assessment Feedback (CIAF) condition.

There is evidence to support the predictive strength of self-efficacy (Bandura, 1986), including studies on smoking cessation (Condiotte and Lichtenstein, 1981; Sitharthan, 1988, 1989), and problem drinking (Sitharthan and Kavanagh, 1990; Kavanagh et al, 1996). An evaluation of face-to-face controlled drinking programs suggested that self-efficacy about control of consumption was the best predictor of future drinking behaviour (Sitharthan and Kavanagh, 1990; Sitharthan et al, 1997).

Based on these observations the third hypothesis was proposed:

Hypothesis 3: Alcohol consumption over the 6-month follow-up would be significantly predicted by self-efficacy about control.

2.3 AIMS OF STUDY 2

Although the Controlled Drinking Self-efficacy Scale has been used in clinical trials (e.g. Kavanagh et al, 1999; Lennings, 1996; Sitharthan et al, 1996, Sitharthan et al, 1997), its factor structure has never been explored. In this study, the factor structure of the Controlled Drinking Self-efficacy Scale (CDSES) was explored and other comparisons were undertaken.

The aims of Study 2:

(1) To explore the factor structure of the Controlled Drinking Self-efficacy Scale (CDSES), (Sitharthan, Job, Kavanagh and Sitharthan, in press),

(2) Examine the gender differences on the CDSES, and

(3) Inspect the relationship between self-efficacy and alcohol dependence (mild-moderate vs. severe dependence).

In the next section, some methodological issues relevant to Study 1 (i.e providing treatment by correspondence) are discussed.

2.4 METHODOLOGICAL ISSUES RELEVANT TO STUDY 1

In the following section, some issues pertinent to conducting correspondence treatment for problem drinking are addressed. The following factors were taken into consideration in the current investigation.

2.4.1. Attrition Prevention

The non-availability of data for certain patients at certain points in alcoholism treatment studies is a rule rather than exception. Riley et al (1987) reviewed 68 alcoholism treatment studies and found that an average of 24% of subjects who completed treatment were lost at follow-up. Loss of relevant client data may occur at other points of an investigation, for example, at intake, during initial screening, after assignment to a treatment condition, at various assessment points during treatment, at completion of treatment, as well as assessment points during follow-up.

No matter how carefully a study is designed, the unavailability of certain data is inevitable in every comparative treatment outcome investigation. However, there are certain precautionary measures that can be undertaken to lower attrition rates, particularly relevant to a correspondence type of intervention. These include: (1) providing the client relevant information about the follow-up when the study commences,

(2) frequent reminders during the project to notify the investigator of any proposed change of address, (3) sending personal greeting cards to the client on special occasions, e.g. birthdays, Christmas, etc. to maintain continuity of contact, and (4) obtaining the names, phone numbers and addresses of a relative and a friend who can be contacted and used as trace persons. The first three methods were applied in the present investigation. Obtaining the names and phone numbers of trace persons was not considered feasible as participants generally do not wish others to be aware of their involvement (Sitharthan et al, 1996; Kavanagh et al, 1999).

An additional method that can be applied to reduce dropout would be to "identify" subjects who may be at risk for attrition (e.g. those with a higher severity of alcohol dependence score, or lower pretreatment self-efficacy ratings to manage problem situations, etc), and offer them additional therapist contact, brief telephone counselling, etc. However, as any such "special attention" to potential dropouts would compromise the design of a correspondence-based treatment, it was not considered.

2.4.2. Increasing Compliance to Complete and Return the Homework Assignment Tasks

An integral part of any behavioural oriented treatment program is the execution of home-work tasks. For example, completion of alcohol

consumption records would be a crucial element in a correspondence-based controlled drinking program. Where necessary, letter and telephone prompts were considered for use to remind clients to complete and return such material. Such prompts by the therapist appear to increase compliance (Panepinto and Higgins, 1969).

2.4.3. Conditions Necessary to Promote Accurate Self-reports of Alcohol Consumption and other Drinking Related Information

Self-report of alcohol consumption, while not a perfect indicator of actual behaviour, is the most common method used and reported in the alcohol treatment literature. Sobell and Sobell (1986) concluded that while a small proportion of substance abusers' self-report appear to be inaccurate, generally there is no factual basis for the widespread skepticism about self-reports. Babor, Steinberg, Anton and Del Boca (2000) observed that in clinical trials using self-referred volunteers, biochemical tests and collateral informant reports do not add sufficiently to self-report measurement accuracy. Sobell, Sobell and Nirenberg (1988) have suggested several strategies to maximise the accuracy of self-reports, which are discussed below. The procedures mentioned below to enhance accuracy are recommended for "clinic" samples (Skinner, 1984), but where relevant, they can be extended and applied to "non-clinic" samples (Maisto and Connors,

1992).

2.4.3-1. Clients are interviewed when they are alcohol free

Intoxication is one possible source of inaccuracy (Sobell, Sobell and VanderSpek, 1979). In a correspondence treatment program clients are not seen face-to-face. However, when participants made preliminary inquiries about the current program, it was stressed to them that they complete the assessment measures when they had not consumed any alcohol. Questionnaires also included a subject information sheet which reminded participants to complete the measures when they are alcohol-free.

2.4.3-2. Clients are not experiencing withdrawals from alcohol or other drugs when responding to questionnaire measures

Withdrawal symptoms can also interfere with cognitive processing and functioning. This point was stressed to all current participants when they made initial inquiries about the correspondence program.

2.4.3-3. Subjects are aware that their responses will be checked against other sources (e.g. collaterals, breath tests, blood tests, etc.)

The nature of correspondence treatments does not allow for breath tests or blood tests to be conducted. Instead, where possible, and if the client agrees, collateral information of drinking status may be obtained from

a friend/spouse/significant other. However, this was not always possible, as indicated in the Kavanagh et al study (1999).

2.4.3-4. A good rapport is established between the clients and the researcher

Although the nature of correspondence treatments does not permit face-to-face contacts, all telephone queries by the participants were answered in a professional and empathetic manner.

2.4.3-5. There are no apparent reasons for the client to under-report or over-report the drinking behaviour

In the current study, if clients with a pending court hearing showed an interest in joining the correspondence program, they were advised that no letters or affidavits would be provided on their behalf. If they still insisted in joining the program, data obtained from them were not used in any analyses. From previous experience in conducting correspondence programs (Kavanagh et al, 1999; Sitharthan et al, 1996) the majority of clients who enrol in such programs are self-referred and no one has requested court reports.

2.4.3-6. Assurance of confidentiality

In the current study, participants were informed that the

questionnaires and subsequent treatment mailings would be sent to them in plain brown envelopes, and complete confidentiality was assured in terms the data and subsequent publications.

2.4.4. Task Definition

In addition to the above procedures, Babor and Del Boca (1992) have suggested that a clear "task definition" may further improve the reliability and validity of the data collected. As alcoholic drinks vary in strength and content it is important to provide a clear and simple method to calculate a standard drink. Unless participants are capable of comprehending the notion of a standard drink and remember the methods to calculate a standard drink they may not adhere or comply with recording. Hence, an illustrated standard drink conversion table was provided to all the subjects as part of the assessment package in the current study.

2.4.5. Verification Checks

In addition to the above, in the current study, every returned questionnaire was checked for incomplete, missing, or items answered incorrectly or inconsistently. There were no incomplete or inconsistent responses. However, it was planned that if there were any incomplete or inconsistent responses, the researcher would call the subject by telephone and seek clarification.

In the following sections, the trial evaluating the impact of the two interventions offered by correspondence and the predictors of favourable treatment outcomes is presented as **Study 1**. This is followed by the study discussing the factor analysis of the CDSES as **Study 2**.

CHAPTER 3. STUDY 1 - METHOD

As pointed out earlier, the major aims of Study 1 were to:

(a) investigate the effectiveness of two forms of brief intervention methods delivered by correspondence to reduce alcohol consumption and frequency of drinking, and (b) identify the predictors of favourable treatment outcomes.

3.1 Research Plan

3.1.1 Experimental Procedure

This study initially compared three conditions:

(1) Cognitive Behaviour Therapy plus Self Directed Cue-Exposure and Response Prevention (CBT+SCE),

(2) Comprehensive Individual Assessment Feedback (CIAF), and

(3) Waiting List (WL) for 2 months.

Following screening for eligibility and the completion of pretreatment assessment, participants were randomly assigned to one of these 3 conditions. After 2 months, participants assigned to the WL condition were subsequently randomized to receive either:

(1) CBT+SCE, or

(2) CIAF.

Assessment of CBT+SCE and CIAF participants took place on three occasions:

(a) immediately before treatment (baseline),

(b) immediately after treatment (2 months after baseline),

(c) and 6 months after completing treatment (6 months after post treatment).

Participants assigned to the WL condition were assessed:

(a) before entering the study (baseline),

(b) again before subsequent randomization to CBT+SCE or the CIAF condition (after 2 months in WL),

(c) immediately after their delayed treatment (i.e. at 4 months), and

(d) 6 months after completing delayed treatment (i.e. at 10 months).

3.1.2 Sample Size Determination

This is the first investigation of its type. In such circumstances sample size calculations are difficult to compute since the anticipated magnitude of the effect is part of the equation, and in the absence of any previous research, this is impossible to estimate. Hallahan and Rosenthal (1996) caution that in these conditions only a subjective estimation can be made about the size of the expected effect. The original intention was to recruit and treat at least 200 participants. Previous experience (e.g.

Kavanagh et al, 1999; Sitharthan et al, 1996; Sitharthan et al, 1997) suggested that about 80% of the treated participants would be available for follow-up. This would have equated with a sample of about 160 at follow-up, or 80 in each of CBT+SCE and CIAF conditions.

Assuming equality of means at Pre-treatment, a minimum power of .80 and $\propto$ = .05, detection of .60 difference in means at follow-up would require 46 participants in each of CBT+SCE and CIAF conditions (Cohen, 1988, 1992); and a .50 difference between the means would require 64 participants in each of the two conditions.

3.1.3 Recruitment and intake

Media interviews and advertisements were used to recruit subjects from all over Australia. Previous experience (Sitharthan et al, 1996; Kavanagh et al, 1999) demonstrated that the print media and local and interstate radio stations were extremely good sources to recruit problem drinkers who are not physically dependent on alcohol. Similar avenues of recruitment were followed in the current proposal. The information provided to these sources (print and radio) included the following:

(a) this programme is suitable for anyone who did not consider themselves to be an alcoholic, but recognised that they may be drinking too much and

wished to cut down their drinking (i.e. not give up completely),

(b) this programme is suitable for anyone who had difficulty attending treatment agencies (e.g. because they live too far away, there are no specialist treatment agencies where they live, no time to attend, etc),

(c) this programme is suitable for anyone who does not want to go to a treatment agency (e.g. feel embarrassed, stigma, etc), and

(d) this programme would suit anyone who would like to cut down their drinking "on their own."

The media sources did not receive any remuneration to publicize the details of this project. The name of the researcher, contact telephone number, and the address where this research was taking place was also provided. When interested clients contacted the researcher, they were initially screened and asked if they had been advised by their general practitioner not to drink, or were currently on prescribed medications with a clear warning not to drink. Female enquirers were also asked if they were currently pregnant or planning pregnancy in the near future. Following this, all eligible enquirers were sent an assessment package, daily drinking record sheets for 2 weeks with instructions to complete them, a plain-language information sheet explaining the project, a consent form and a postage paid plain brown envelope with the name and address of the researcher. The

participants were requested to complete the assessment measures and return them immediately. The returned assessment package was examined by the researcher, and the following inclusion/exclusion criteria was employed to select potential participants:

1. Age 18 years or above,
2. Understood written and spoken English,
3. The total score on the Severity of Alcohol Dependence Questionnaire Form-C (Stockwell, Sitharthan, McGrath and Lang, 1994) was below 30,
4. Not currently receiving treatment for alcohol problems, and
5. No current or pending alcohol-related legal problems.

It was planned to refer participants who score 30 or more on the Severity of Alcohol Dependence Questionnaire-Form C (SADQ-C) to a local drug and alcohol treatment agency. This was deemed essential as people with high dependence scores are more likely to experience withdrawals when they cease drinking and may have coexisting medical problems, and may not be suitable candidates for a moderation drinking program (Rosenberg, 1993; Stockwell, Murphy and Hodgson, 1983).

If participants with current alcohol-related legal problems wished to join the program, they were advised that they could do so, but no letters or affidavits regarding their progress would be provided. No data collected from such participants were used in any analyses.

As can be seen from Table 6, a total of 246 people made initial inquiries about the program. Twenty-six inquirers were deemed ineligible to participate due to: liver disease (n = 2), informed by their doctor not to drink (n = 10), on medications with a clear warning not to consume any alcohol (n = 11), and currently pregnant (n = 3). They were advised to pursue a goal of abstinence. The remaining 220 were sent the preliminary assessment package, and 197 (89.5%) of these returned the completed questionnaires. Out of this, 19 (9.6%) had SADQ-C scores that exceeded 30. These people were contacted by telephone and advised to seek treatment from their local General Practitioner, or drug and alcohol treatment agencies in their area.

Table 6 Recruitment Process (Study 1)

Number of participants who rang to enquire about the program
n = 246

↓

Number of participants sent pre assessment questionnaires following preliminary telephone screening
n = 220

↓

Number of participants who returned the questionnaires
n = 197

↓

Number of participants selected to enter trial after further exclusions
n = 178

The remaining 178 participants were randomly assigned to either CBT+SCE (n= 60), CIAF (n= 60), or WL (n= 58) conditions. After 2 months, those initially assigned to the WL condition were further allocated to either CBT+SCE or CIAF. Details of the number of participants available at various follow-up points (in months) is presented in Table 7.

Table 7 Assignment of participants to different conditions and number available at different follow-up points (Study 1)

MONTHS	***GROUPS and n AVAILABLE***			
	CBT+SCE	**CIAF**	**WL**	
0 (Pre treatment assessment 1) For all participants	60	60	58	
2 (Post treatment assessment 1) For participants in the CBT+SCE and the CIAF groups	54	48	58	
2 (Pre treatment assessment 2) For participants in the WL group Assigned to CBT+SCE or CIAF			58 ↙ ↘ 26 CBT+SCE	32 CIAF
4 (Post treatment assessment 2) For participants in the WL group Available in CBT+SCE / CIAF group			22	24
8 (Follow-up Assessment) Participants in the CBT+SCE and the CIAF groups	47	33		
10 (Follow-up Assessment - 2) Participants in the WL group Available in CBT+SCE / CIAF group			16	19

Note: Total participants available at 6-month follow-up, including those in delayed treatment: **CBT+SCE [n = 63], CIAF [n = 52]**

3.2 Assessment Package

The following assessment package was mailed to the clients following initial inquiry:

3.2.1. Problem Drinking Questionnaire (PDQ) (Kavanagh et al, 1999; Sitharthan et al, 1996; Sitharthan et al, 1997).

The PDQ is a self-report measure that seeks information about the quantity of drinking, frequency of drinking, and patterns of drinking; type of alcoholic beverage usually consumed; psychosocial problems and medical complications associated with alcohol misuse; previous treatment efforts and their outcomes; and the use of other drugs. The PDQ also has a separate section that obtained demographic data about the participants (e.g. age, gender, education level, current employment and marital status). The PDQ has moderate internal consistency ($\propto$ = 0.75; Sitharthan et al, 1996), reflecting some heterogeneity in alcohol abuse sequelae.

3.2.2. The Severity of Alcohol Dependence Questionnaire - Form C (SADQ-C)

The SADQ-C (Stockwell, Sitharthan, McGrath and Lang, 1994) is a 20-item questionnaire ($\propto$ = 0.97) that covers alcohol dependence syndrome elements such as physical withdrawal, affective withdrawal, drinking for the relief of withdrawal, the experience of craving, and reinstatement of these

symptoms after a period of abstinence. Items such as "*the day after drinking alcohol, my hands shook first thing in the morning*" have four alternative responses, ranging from "*never or almost never*" (which is rated 0) to "*nearly always*" (which is rated 3). The total possible score is 60, with higher scores, i.e. 31 and above reflecting severe dependence on alcohol.

3.2.3. The Impaired Control Questionnaire (ICQ)

The ICQ (Stockwell, Sitharthan, McGrath and Lang, 1994) is a 5-item scale ($\propto$ = 0.98) developed to assess impaired control over alcohol consumption, which is considered as a leading element of the alcohol dependence syndrome (Edwards, Gross, Keller, Moser, and Room, 1977). The ICQ was developed to complement the SADQ-C, and the response alternatives are identical to those in the SADQ-C.

3.2.4. The Controlled Drinking Self-Efficacy Scale (CDSES)

The CDSES is a 20-item scale (Sitharthan et al, 1996; Sitharthan et al, 1997) is a 20-item self-efficacy measure based on an earlier version with 15 items (Sitharthan and Kavanagh, 1990). While the original 15-item scale seeks the respondents appraisal of confidence in different, difficult situations; the 20-item version (in addition to the 15 items) seeks subjective confidence in abstaining from drinking for a few specified days as well as reducing the overall consumption. Sample questions include (Over the next

6 months), "*How confident are you that you will not drink more than six standard drinks when you are at a party with friends*?", and (Over the next 6 months), "*How confident are you that you that you can stop drinking alcohol at least three days a week*?". The ratings of all items ranged from 0 (*not at all confident*) to 100 (*very confident*).

3.2.5. Outcome Expectancy Questionnaire (OEQ)

This 20-item multiple choice questionnaire ($\propto$ = .90) was designed by Annis (1984) to measure the clients degree of positive and negative expectations of outcome of their treatment for alcohol problems. Items such as ["*If I could get my drinking under control - I would feel better about myself*"] are rated on a 7-point scale ranging from "*extremely likely*" to "*extremely unlikely*".

3.2.6. Life Orientation Test (LOT)

The LOT measures optimism versus pessimism (Scheier and Carver,1985), and contains eight statements plus four filler items; four reflecting an optimistic view (e.g. "*In uncertain times, I usually expect the best*"), and four reflecting a pessimistic view (e.g. "*I hardly ever expect things to go my way*"). The respondents indicate their agreement with each item on a 5-point scale, ranging from "*strongly agree*" to "*strongly disagree*". The respondent's optimism score is the sum of responses to the eight items

(after appropriate reversals) keyed in the direction of optimism. The LOT has adequate psychometric properties and good discriminant validity with respect to related concepts such as locus of control, hopelessness and psychological adjustment. In one study, the internal consistency of this measure was high ($\propto$ = .78), though the test-retest reliability was modest (r = .55); (Carver and Dunham, 1991).

3.2.7. Two-week drinking records part of pretreatment

A two-week drinking record was also enclosed with the assessment package. Participants were provided with simple instructions on how to calculate a standard drink (which in Australia contains about 10gms of alcohol), and mark in the appropriate columns how many standard drinks they consumed on every drinking day. From previous experience, this simple measure has been considered user-friendly and enhanced subject compliance in completing and returning them (Sitharthan et al 1996; Kavanagh et al, 1999).

3.2.8 Advantages and disadvantages of change form

Also included in this package was a card seeking information from the participants to list the possible advantages and disadvantages of change (pros and cons), that is, what benefits they think may be accrued if they cut down their drinking and the costs associated with any changes.

Figure 1 Illustrates the time points each assessment measure was administered for those receiving immediate CBT+SCE and CIAF conditions.

Figure 1 Time points each assessment measure was administered for participants in the immediate CBT+SCE and the CIAF conditions (Study 1)

Measures	Baseline	Post	6-month follow-up
PDQ	✓		✓
SADQ-C	✓		✓
ICQ	✓		✓
CDSES	✓	✓	✓
OEQ	✓		
LOT	✓		
2-WEEK DRINKING RECORDS	✓	✓	✓
ADVANTAGES AND DISADVANTAGES OF CHANGE FORM	✓		

PDQ = Problem Drinkers Questionnaire

SADQ-C = Severity of Alcohol Dependence Questionnaire Form C

ICQ = Impaired Control Questionnaire

CDSES = Controlled Drinking Self-Efficacy Scale

OEQ = Outcome Expectancy Questionnaire

LOT = Life Orientation Test

All these measures are reproduced in full in Appendix.

3.3 Treatment Conditions

After ascertaining the suitability of enrolment, participants were randomly allocated to the following 3 conditions:

3.3.1. Cognitive Behaviour Therapy plus Self Directed Cue-exposure and Response Prevention (CBT+SCE)

The participants in this group received four mailings of treatment information over 2 month (once a fortnight). Sample letters are included in the Appendix. In the first treatment letter, participants received a personal comprehensive feedback regarding their responses to the various questionnaires similar to Sobell et al (1996). Tailored feedback focussed on:

(a) the amount they drank compared to other adult Australians,

(b) the frequency of their drinking compared to other adult Australians,

(c) the money spent on alcohol in the last 6 months,

(d) the total amount of alcohol-related calorie intake in the last six months,

(e) where their SADQ-C score placed them in terms of severity of dependence,

(f) the situations in which the participants had difficulty controlling their intake of alcohol (as judged by their self-efficacy ratings), and

(g) their views about what benefits may be accrued if they cut down their drinking and the costs associated with any changes.

Participants also received information about the harmful effects of

excessive drinking, information about safe drinking levels, and were introduced to self- monitoring exercises. The first mailing also included information on how to identify personal high-risk situations, and to apply problem solving methods to deal with them.

The content of mailings 2, 3, and 4 was similar to the early work of Sitharthan et al (1996). Participants received information how to cope with urges and temptations, deal with negative emotional states, obtain support from significant others, identify and use workable coping skills, use incentives, and how to effectively manage setbacks and maintain treatment gains.

In addition, these subjects were also introduced to and received printed information / training materials about cue-exposure and response prevention exercises that included the following:

(a) The role of cues in eliciting desires to drink excessively and how these cues can be weakened if drinking is inhibited.

(b) Participants were asked to identify their personal high-risk situations and all possible cues and triggers (people, places, situations, events, and mood states) that prompted them to drink excessively in the past 12 months. They were asked to make a list of these cues from an enclosed cue card, and rate how tempted they would be to drink excessively (i.e. more than 6 standard

drinks) in each one of the chosen high-risk situations, using a 0 - 100 point scale (0 = "not at all tempted", to 100 = "extremely tempted "). They also rated how confident they were that they could drink less than six standard drinks on a similar 0 - 100 point scale (0 = "not at all confident", to 100 = "extremely confident"). Participants used this information to formulate a hierarchy of high-risk cues, and in particular to focus on risk cues that had a high probability of occurring in the immediate future.

(c) They also received information about priming doses, their role in increasing desires to drink, how to prepare and drink priming doses, their immediate effects, and the steps they could take to prevent further drinking. Information included how many standard drinks of priming doses men and women should have (three for men and two for women), how long should they take to complete the priming doses (within 20 minutes), where they should begin the practice sessions (less difficult places / situations), who should they practice with, how and what to ask of co-practitioners, how to focus on the additional drink that is left in front of them, when to end the session, and spending a brief time to reflect upon their attempts.

(d) Participants were asked to commence the exposure exercise by consuming priming doses and applying response prevention in the least problematic situation, and progressively attempt more difficult situations as they mastered each one and became more confident in their attempts. The aim was to allow them to habituate to a series of progressively difficult high-

risk cues. Participants were required to practice exposure and response prevention exercises three times a week.

(e) Wherever applicable, participants were asked to include a significant other / partner / friend in the cue-exposure and response prevention exercises. Participants were asked to share the materials they received by mail to their chosen co-practitioner in this exercise.

(f) It was repeatedly pointed out to the participants that in order to conduct self-directed exposure and response prevention, they should assume the role of a "therapist", they should not assume the role of a passive recipient of printed information, and positive changes would depend on how hard they try.

The mailing details of the CBT+SCE package is briefly presented below:

Treatment Mailing 1:

Information regarding the harmful effects of heavy drinking, individual feedback from the assessment conducted, information about safe drinking levels, introduction to self-monitoring, identification of personal high-risk situations and introduction to problem solving skills.

Treatment Mailing 2:

Introduction to alcohol-related cues and how cues can be weakened, information about priming doses, a simple chart informing how to calculate blood alcohol levels (depending on gender and body weight) and the physiological/cognitive effects associated with different BAC levels, information about how best to practice self-directed cue-exposure and response prevention exercises, information to personalise cues of graded difficulty, and where applicable how to involve a partner / friend / significant other / family member in the self-directed cue-exposure and response prevention exercises. In addition, a simple scale was constructed to assess the participants comprehension of the self-directed cue-exposure and response prevention exercises, and this scale was sent with Mailing 2. This scale was administered to purely ascertain the participants understanding of the exposure and response prevention methods. Participants were requested to complete the scale and mail it back to the investigator, and a self-addressed stamped envelope was included for this purpose. Space was also provided for participants to write any additional feedback about practising self-directed exposure and response prevention training.

Treatment Mailing 3:

Revision of self-directed cue-exposure exercises, implementing cognitive and behavioural coping strategies, methods to maintain treatment gains, promotion of self-regulation through effective use of incentives, identification of drinking-related "problematic" cognitions and how to challenge them, ways to enhance self-efficacy, and preventing binge drinking.

Treatment Mailing 4:

Revision of cue exposure exercises, information how to manage setbacks and prevent relapses, implementing life-style changes, using social support to maintain treatment gains, and continued self monitoring to recognize setbacks and progress.

The treatment package is reproduced in the Appendix.

3.3.2. Comprehensive Individual Assessment Feedback (CIAF)

Upon receipt of the completed questionnaire package, the responses of the participants in this group was individually studied and a personal report of their current drinking and related status was sent back to them along with details of safe drinking levels. The subjects allocated to this group received a personal comprehensive feedback that focussed on the following:

(a) the amount they drank compared to other adult Australians,

(b) the frequency of their drinking compared to other adult Australians,

(c) the money spent on alcohol in the last 6 months,

(d) the total amount of alcohol-related calorie intake in the last six months,

(e) where their SADQ-C score places them in terms of severity of dependence,

(f) the situations in which the participants had difficulty controlling their intake of alcohol (as judged by their self-efficacy ratings), and

(g) their views about what benefits may be accrued should they cut down / and the costs associated with any changes.

No additional treatment information was provided to participants in this group.

3.3.3. Waiting List (WL) condition

After being allocated to wait for 2 months, and at the end of that period, this group was randomly assigned to receive either the full CBT+SCE package or the CIAF material.

3.4 Details of Post treatment assessment

All participants were required to complete the CDSES and the 2-week drinking record and mail them back in a prepaid stamped envelope.

3.5 Details of Follow-up assessment

As can be seen from Figure 1, participants received the PDQ, SADQ - C, ICQ, CDSES, and the 2-week drinking record at the six-month follow-up. Similar to the post treatment assessment, these measures were mailed out to the participants and requested to complete and return them.

In the next section, the details of the data analyses is presented, followed by the results and discussion of Study 1.

3.6 DATA ANALYSES – STUDY 1

The primary analyses were by intent-to-treat, which is considered as a conservative approach to analyzing data (Gillings and Loch, 1991). As drop-out is a common phenomenon in clinical trials involving longitudinal assessments for a fixed duration of follow-up, intent-to-treat analysis is usually preferred because time effects are seen in practice (Mazumdar, Liu, Houck and Reynolds, 1999). Under the intention-to-treat principle, all subjects randomised in the study are included in the evaluation regardless of the extent of treatment they complete (Lehert 1993; Sheiner and Rubin, 1995). In the present investigation, several attempts were made to obtain data from those who dropped out (e.g. telephone calls and letters). However, this did not result in obtaining relevant information. Hence, in accordance with the intent-to-treat principle their pretreatment data was used instead. This cautious process assumes that there has been no changes among dropouts. Use of pretreatment scores is considered as the most conservative method to illustrate treatment gains (Kendall, 1998). The approach has been applied in many clinical trials including a recent investigation of self-exposure treatment by mail for recurrent nightmares (Burgess et al, 1998).

Initial examination focused on determining if the three conditions were equivalent at baseline. One-way analyses of variance (ANOVAs) and chi-square analyses were computed to determine whether the groups were similar on all demographic and clinical variables. There were no statistically significant differences between the three conditions on any variables.

As higher Quantity of Consumption and Frequency of Drinking are central features of problem drinking, the primary outcome variables of interest were changes in the Quantity and Frequency of drinking. The following comparisons were undertaken:

(1) CBT + SCE, CIAF and WL were compared at posttreatment using a 2 (pretreatment vs posttreatment) x 3 (CBT+SCE vs CIAF vs WL) repeated measures analysis of variance (ANOVA), dividing the degrees of freedom for condition into two *a priori* contrasts (Treatment vs WL, and CBT+SCE vs CIAF).

(2) A 2 (CBT+SCE vs CIAF) x 2 (Immediate treatment vs Delayed treatment) x 3 (pretreatment vs posttreatment vs 6-months follow up) repeated measures ANOVA was performed. This analysis included those who had initially been in the WL condition. The effect for time was partialled into two *a priori* contrasts (Pre treatment vs Follow up, or Linear, and Pre and Follow up vs Post, or Quadratic).

(3) In addition to addressing changes in quantity and frequency of drinking, repeated measures ANOVA was performed to compare changes in self-efficacy (CDSES), alcohol dependence (SADQ-C), and impaired control over alcohol intake (ICQ), for the intervention conditions.

(4) Pearson chi-square tests were used at each time point to compare the proportion of participants in each condition (CBT+SCE and CIAF) consuming at the population level (Normative Comparisons).

(5) A series of regression analysis was undertaken to predict favourable treatment outcomes.

The results of the various analysis undertaken for Study 1 and the discussion of these results is presented in the next section.

CHAPTER 4: RESULTS and DISCUSSION OF STUDY 1

4.1 Sample Characteristics

Similar to previous trials (Kavanagh et al, 1999; Sitharthan et al, 1996), participants were recruited from every state of Australia. Of the one hundred and seventy-eight eligible participants, ninety-two were males and eighty-six were females. The average age of the participants was 47 years (range 23 to 80), and 41% were married or in a live-in relationship. Twenty-two percent of the sample had completed a school certificate, 21% had finished their high-school certificate, 14% had a university degree and 9% had postgraduate qualifications. Thirty-nine percent were in full-time employment and 15% worked part time.

Eighty-four percent of the sample drank alcohol everyday. The sample had a mild level of alcohol dependence (SADQ-C Mean = 14.21, SD 2.76; ICQ Mean = 9.85, SD 1.71). Thirty percent of the sample had attempted to cut down their drinking in the previous six months prior to taking part in the program, and 45% had attempted at least once in their life time at some self initiated attempt to cut down. However, 24% had never made any attempts to cut down. To questions about the last six

months prior to participating in the program, 71% of the sample had indicated that significant others had expressed a concern about their alcohol consumption, 25% had never seen a medical practitioner or a counsellor regarding their drinking, and only 9 participants (5%) had been to AA. Forty-one percent of the sample had indicated that they felt guilt or remorse after drinking at least once a week, while 27% said they experienced these feelings daily. With regards to experiencing blackouts, 39% experienced at least one per month, 61% about once a week, and 11% almost daily. Twenty-two percent had experienced some form of work-related problems (e.g. lost time of work, been late to work, poor performance) in the last six months, and five individuals (2.8%) had lost their job in the same time frame due to their drinking. About 67% had experienced some form of relationship problems, 14% indicated that either themselves or someone else had been injured as a result of their drinking, and 9% had experienced some form of trouble with the law (e.g. disorderly conduct). The characteristics of the participants from the three conditions at intake are presented in Table 8.

Table 8 **Characteristics of subjects assigned to the CBT+SCE, CIAF, and the WL groups at intake (Study 1)**

	CBT+SCE	CIAF	WL
Age (M and SD)	48.61 (12.17)	47.86 11.58)	47.53 (5.79)
Gender (M / F)	33/27	26/34	33/25
ICQ (M and SD)	9.90 (1.67)	9.72 (1.77)	9.95 (1.70)
SADQ-C (M and SD)	14.02 (2.83)	13.98 (2.78)	14.64 (2.67)
CDSES (M and SD)	1055.50 (331.58)	878.16 (422.01)	980.34 (271.79)
OE (M and SD)	59.78 (28.93)	50.30 (14.04)	54.86 (26.15)
LOT (M and SD)	27.18 (11.33)	24.10 (3.91)	25.60 (11.88)

ICQ = Impaired Control Questionnaire; SADQ-C = Severity of Alcohol Dependence Questionnaire Form C; CDSES = Controlled Drinking Self-efficacy Scale; OE = Outcome Expectancy Questionnaire; LOT = Life Orientation Test

4.2 Primary Outcome Measures: First 2 months

The primary outcome measures of interest were Quantity of Consumption and Frequency of Drinking. Table 9 shows the data on the primary outcome measures at baseline and post treatment for the three comparative groups. The analysis of quantity (repeated measures ANOVA pre to post treatment) yielded a significant main effect of time, $F(1,175) = 221.73$, $p < 0.001$, $\eta^2 = 0.559$, and treatment condition $F(2,175) = 12.02$, $p < 0.001$, $\eta^2 = 0.121$, and a significant Time x Treatment Condition interaction, $F(2,175) = 61.961$, $p < 0.001$, $\eta^2 = 0.415$. The analysis of the frequency of drinking indicated a significant main effect for time, $F(1,175) = 277.15$, $p < 0.001$, $\eta^2 = 0.613$, and treatment condition $F(2,175) = 114.91$, $p < 0.001$, $\eta^2 = 0.568$, and a significant Time x Treatment interaction $F(2,175) = 100.32$, $p < 0.001$, $\eta^2 = 0.534$.

A priori contrasts testing each treatment condition over quantity and frequency were also significant. The contrast for Quantity of drinking $F(2,175) = 12.03$ $p < 0.001$ $\eta^2 = 0.121$ indicated that the mean quantity of drinking per day was significantly lower in the CBT+SCE and the CIAF compared to the WL (Contrast estimate = 1.29 $p < 0.001$). The difference between the CBT+SCE

(Contrast estimate = 0.717, $p < 0.001$). The contrast for Frequency F (2,175) = 114.91, $p < 0.001$, $\eta^2 = 0.568$ indicated that the mean frequency of drinking was significantly lower in the CBT+SCE and CIAF compared to WL (Contrast estimate = 1.655 $p < 0.001$). The difference between the CBT +SCE and the CIAF conditions was also significant (Contrast estimate = 0.908 $p < 0.001$).

Table 9 Mean and SD of Quantity and Frequency of the three groups at baseline and post treatment (Study 1)

	CBT+SCE	CIAF	WL
Consumption Quantity at Pre (in standard drinks)	9.05 (2.52)	8.85 (2.35)	8.75 (1.82)
Consumption Quantity at Post (in standard drinks)	4.61 (.95)	6.23 (1.49)	8.62 (1.67)
Frequency of Drinking at Pre (days per week)	6.16 (.84)	6.20 (.87)	6.79 (.48)
Frequency of Drinking at Post (days per week)	2.78 (.66)	4.58 (1.04)	6.76 (.47)

The *a priori* contrasts in the pre-post 3 group analysis was as follows: The group x time linear contrasts were: For Quantity $F(2,175) = 61.961$, $p<0.001$, $\eta^2 = 0.415$, and for Frequency $F(2,175) = 100.319$, $p<0.001$, $\eta^2 = 0.534$. As can be seen from Table 10, the linear contrasts for interactions of group and time suggests that the drop in the CBT+SCE group was significantly greater than for the other groups over time for both quantity and frequency of drinking.

Table 10 Tests of Within-Subjects Contrasts – Quantity and Frequency of Consumption (Study 1)

Quantity

Source	QUANT	Type III Sum of Squares	df	Mean Square	F	Sig.	Eta Squared
QUANT	Linear	397.129	1	397.129	221.731	.001	.559
QUANT * GROUP	Linear	221.950	2	110.975	61.961	.001	.415
Error (QUANT)	Linear	3313.432	175	1.791			

Frequency

Source	FREQ	Type III Sum of Squares	df	Mean Square	F	Sig.	Eta Squared
FREQ	Linear	181.482	1	181.482	277.155	.001	.613
FREQ*GROUP	Linear	131.379	2	65.689	100.319	.001	.534
Error (FREQ)	Linear	114.591	175	.655			

Table 11 shows the data on the primary outcome measures at baseline, post treatment, and 6 month follow-up for the two comparative groups of interest (CBT+SCE vs CIAF). This analyses revealed statistically significant main effects of time F (2,174) = 105.60, $p < 0.001$ and treatment condition F (1,175) = 23.34, $p < 0.001$. The interaction between the treatment conditions over time was significant F (2,350) = 47.18, $p < 0.001$.

Table 11 Mean and SD of Quantity and Frequency of the two intervention groups at baseline, post treatment, and follow-up (Study 1)

	Consumption Quantity (in standard drinks)			Frequency of Drinking (days per week)		
	Pre	**Post**	**F-up**	**Pre**	**Post**	**F-up**
CBT+ SCE	9.05 (2.52)	4.61 (0.95)	3.15 (0.88)	6.16 (0.84)	2.78 (0.66)	2.64 (0.57)
CIAF	8.85 (2.35)	6.23 (1.49)	7.33 (2.10)	6.20 (0.87)	4.58 (1.04)	4.00 (0.86)

An independent samples t-test was undertaken to examine gender differences between the three groups with respect to consumption quantity per drinking occasion (see Table 12). Only at baseline males in the CBT+SCE condition consumed more alcohol compared to females (p = < .001). There were no significant differences in the CIAF condition (p = < 0.67) and the WL condition (p = < .15) with respect to gender.

Table 12 Weekly alcohol consumption for males and females for the three comparative groups at baseline, post and follow-p (Study 1)

	Male			Female		
	Mean	**SD**	***n***	**Mean**	**SD**	***n***
CBT + SCE						
Pre	9.97	2.32	33	7.93	2.32	27
Post	4.65	0.97	29	4.56	0.96	25
F-up	3.37	0.97	24	2.90	0.72	20
CIAF						
Pre	9.00	1.2	26	8.74	2.68	34
Post	6.17	1.34	18	6.27	1.60	30
F-up	6.91	2.26	11	7.55	2.04	22
WL						
Pre	9.06	1.98	33	8.36	1.55	25
Post	5.08	1.49	26	5.25	1.86	20

4.3 Analysis of Immediate vs Delayed Effects of Treatment and of Effects over Follow-up

A separate (CBT+SCE vs CIAF) x 2 (Immediate vs Delayed or former WL) x 3 (pretreatment, post treatment, follow-up) was undertaken to examine whether the two month delay in the onset of treatment for the WL group had any impact on their treatment outcomes (quantity and frequency of drinking), and to examine effects of CBT+SCE vs CIAF over follow-up. It can be seen from Table 13 that for quantity of drinking, the linear and quadratic contrasts for CBT+SCE vs CIAF and immediate vs delay over time are significant. The linear and quadratic contrasts for CBT-CIAF over time and for immediate-delay over time are significant. Examining the means it can be seen that this effect demonstrates a significantly greater decrease in quantity consumed in the CBT+SCE group. Further, there was a significantly greater decrease in quantity of consumption for those receiving immediate treatment versus those that received delayed treatment. Table 13 addresses Quantity of consumption and Table 14 addresses the Frequency of consumption.

Table 13 Quantity of Consumption – Tests of Within-Subjects Contrasts (Study 1)

Source	Time	Type III Sum of Squares	df	Mean Square	F	Sig.	Eta Squared
Time	Linear	389.946	1	389.946	126.442	.001	.422
	Quadratic	26.635	1	26.635	15.42	.001	.082
Time*CBTCIAF	Linear	216.533	1	216.533	70.21	.001	.289
	Quadratic	12.262	1	12.262	7.10	.008	.039
TIME*IMMDELAY	Linear	13.560	1	13.650	4.40	.037	.025
	Quadratic	168.550	1	168.550	97.57	.001	.361
TIME*CBTCIAF	Linear	2.806	1	2.806	.91	.341	.005
*IMMDELAY	Quadratic	12.434	1	12.434	7.20	.008	.040
Error (TIME)	Linear	533.535	173	3.084			
	Quadratic	298.868	173	1.728			

1. CBT vs CIAF * TIME

TIME		Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
CIAF	1	8.784	.247	8.296	9.273
	2	7.646	.202	7.247	8.045
	3	8.213	.296	7.628	8.797
CBT+SCE	1	8.955	.266	8.430	9.480
	2	6.833	.217	6.404	7.260
	3	5.038	.318	4.410	5.666

2. IMMEDIATE VS DELAYED * TIME

IMMDELAY	TIME	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Delay	1	8.783	.298	8.174	9.352
	2	8.620	.244	8.139	9.101
	3	6.938	.357	6.233	7.642
Immediate	1	8.976	.207	8.567	9.385
	2	5.859	.169	5.525	6.193
	3	6.313	.248	5.824	6.802

The linear contrasts for CBT+SCE - CIAF over time and quadratic contrasts for immediate - delay over time are significant (see Table 14). Examining the means it can be seen that this effect demonstrates a significantly greater decrease in frequency of consumption in the CBT+SCE group as time progressed. The

quadratic effect was not significant. Further, there was a significantly greater decrease in frequency of drinking for those receiving immediate treatment versus those that received delayed treatment.

Table 14 Frequency of Consumption – Tests of Within- Subjects Contrasts (Study 1)

Source	Time	Type III Sum of Squares	df	Mean Square	F	Sig.	Eta Squared
Time	Linear	302.399	1	302.399	210.12	.001	.547
	Quadratic	.898	1	.898	1.20	.275	.007
Time*CBTCIAF	Linear	35.117	1	35.117	24.40	.001	.123
	Quadratic	1.099	1	1.099	1.47	.228	.008
TIME*IMMDELAY	Linear	.888	1	.888	0.62	.433	.004
	Quadratic	124.920	1	124.920	166.73	.001	.489
TIME*CBTCIAF	Linear	.287	1	.287	0.20	.656	.001
*IMMDELAY	Quadratic	17.005	1	17.005	22.70	.001	.115
Error (TIME)	Linear	250.420	174	1.439			
	Quadratic	130.368	174	.749			

1. CBT vs CIAF * TIME

CBTCIAF	TIME	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
CIAF	1	6.459	.083	6.259	6.624
	2	5.819	.121	5.579	6.058
	3	5.158	.186	4.791	5.526
CBT+SCE	1	6.526	.089	6.349	6.702
	2	5.006	.130	4.750	5.263
	3	3.879	.200	3.485	4.274

2. IMMEDIATE VS DELAYED * TIME

IMMDELAY	TIME	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Delay	1	6.802	.101	6.603	7.000
	2	6.767	.146	6.478	7.055
	3	4.721	.225	4.277	5.165
Immediate	1	6.183	.070	6.046	6.321
	2	4.058	.101	3.859	4.258
	3	4.317	.155	4.010	4.623

4.4 Comparing Consumption Quantity at Follow up

A secondary analysis (a univariate linear model of variance) was undertaken to examine group effects on Quantity of Consumption at Follow-up (see Table 15). Results indicate that at follow up, the CIAF group was drinking significantly more than the CBT+SCE group (F (1,108) = 229.79, $p < 0.001$, $\eta^2 = .68$). There were no significant differences between immediate treatment and delayed treatment (F (1,108) = .11, *ns.*, $\eta^2 = .001$). The interaction between the CBT+SCE/CIAF and immediate / delayed treatment was also not significant (F (1,108) = .762, *ns.*, $\eta^2 = .007$).

Table 15 Tests of Between-Subjects Effects of Quantity of Consumption at Follow-up (Study 1)

Source	Type 111 Sum of Squares	df	Mean Square	F	Sig.	Eta Squared
Corrected Model	527.666 [a]	3	175.889	86.62	.001	.706
Intercept	2666.775	1	2666.775	1313.179	.001	.924
CBTCIAF	466.647	1	466.647	229.79	.001	.680
IMMDELAY	.219	1	.219	.11	.743	.001
CBTCIAF* IMMDELAY	1.547	1	1.547	.76	.385	.007
Error	219.325	108	2.031			
Total	3699.000	112				
Corrected Total	746.991	111				

[a] R Squared = .706 (Adjusted R Squared = .698)

4.5 Comparing Frequency of Consumption at Follow-up

Similar to the above analysis, another univariate linear model of variance was undertaken to analyse the Frequency of Drinking at Follow-up (see Table 16). Results indicate that at follow up, the CIAF group was drinking significantly more often than the CBT+SCE group (F = 101.59, $p<0.001$, $\eta^2 = .48$). There were no significant differences between immediate treatment and delayed treatment (F = 0.11, *ns.*, $\eta^2 = .00$). The interaction between the CBT+SCE / CIAF and immediate / delayed treatment was also not significant (F = .723, $p<.397$).

Table 16 Tests of Between-Subjects Effects of Frequency of Consumption at Follow-up (Study 1)

Source	Type 111 Sum of Squares	df	Mean Square	F	Sig.	Eta Squared
Corrected Model	57.935[a]	3	19.312	37.521	.001	.508
Intercept	1047.108	1	1047.108	2034.466	.001	.949
CBTCIAF	52.288	1	52.288	101.592	.001	.482
IMMDELAY	9.157E-03	1	9.157E-03	.018	.894	.001
CBTCIAF* IMMDELAY	.372	1	.372	.723	.397	.007
Error	56.101	109	.515			
Total	1319.000	113				
Corrected Total	114.035	112				

[a] R Squared = .508 (Adjusted R Squared = .495)

4.6 Changes in Self-efficacy (CDSES), Alcohol Dependence (SADQ-C) and Impaired Control (ICQ) Measures

In addition to analysing changes in Quantity and Frequency of drinking, changes in CDSES, SADQ-C, and ICQ were also undertaken. As can be seen from Table 17, the tests of between-subjects effects indicate that those who received CBT+SCE fared significantly better than those who received CIAF in terms of increments in self-efficacy (CDSES) $p < 0.001$, $\eta^2 = .190$. However, there was no impact whether participants received treatment immediately or after delay (.290 *ns*).

Table 18 addresses the between-subject effects of changes in SADQ-C (alcohol dependence scores). Participants who received CBT+SCE showed significant reductions in SADQ-C scores compared to those who received CIAF, $p < 0.001$, $\eta^2 = .197$, but there was no impact of immediate versus delayed treatment (.801 *ns*).

A similar analysis was undertaken to compare CBT+SCE vs CIAF and immediate vs delayed treatment in terms of changes in impaired control over alcohol intake (ICQ). As can be seen from Table 19, once again, those who received CBT+SCE showed significant reductions in ICQ compared to those receiving CIAF, $p <$

0.001, η^2 = .152. Similarly, there was no significant difference between receiving immediate vs delayed treatment (.111 *ns*).

Table 17 Tests of Between-Subjects Effects – CDSES (Study 1)

Source	Type 111 Sum of Squares	df	Mean Square	F	Sig.	Eta Squared
Intercept	428839561.0	1	428839561.00	1691.686	.000	.940
IMMDELAY	286312.489	1	286312.489	1.129	.290	.010
CBTCIAF	6419634.407	1	6419634.407	25.324	.001	.190
IMMDELAY*CBTCIAF	3.112	1	3.112	.000	.997	.000
Error	27377825.374	108	253498.383			

Table 18 Tests of Between-Subjects Effects–SADQ-C (Study 1)

Source	Type 111 Sum of Squares	df	Mean Square	F	Sig.	Eta Squared
Intercept	20555.284	1	20555.284	2655.709	.000	.961
IMMDELAY	.493	1	.493	.064	.801	.001
CBTCIAF	207.175	1	207.175	26.767	.001	.197
IMMDELAY*CBTCIAF	8.190	1	8.190	1.058	.306	.010
Error	843.664	109	7.740			

Table 19 Tests of Between-Subjects Effects – ICQ (Study 1)

Source	Type 111 Sum of Squares	df	Mean Square	F	Sig.	Eta Squared
Intercept	10352.586	1	10352.586	2600.57	.000	.960
IMMDELAY	10.272	1	10.272	2.580	.111	.023
CBTCIAF	78.079	1	78.079	19.614	.001	.152
IMMDELAY*CBTCIAF	3.423	1	3.423	.860	.356	.008
Error	433.917	109	3.981			

4.7 Normative Comparisons

In normative comparisons, clinical significance is defined as end state functioning that falls within a normative range on important measures (Kendall and Grove, 1988, Kendall et al, 1999). Since researchers currently do not know whether any type of alcohol consumption is "safe", some organisations (e.g. Canadian Addiction Research Foundation and the Canadian Centre on Substance Abuse) have adopted the term "low-risk drinking". This terminology implies that certain drinking levels are not strongly associated with negative consequences and avoids the term "safe drinking" (Dufour, 1999).

In this study, normative comparison was undertaken similar to the Kavanagh et al's (1999) trial. The percentage of males who were drinking four standard drinks or less, and the percentage of females drinking two standard drinks or less, at various assessment points for the three groups are presented in Table 20.

More participants assigned to the CBT+SCE condition had commenced to drink less and this trend increased over time, approaching community norms. At pretreatment, participants in this group were consuming more than nine standard drinks per drinking occasion, and this dropped to around three standard drinks at follow-up. This pattern compares favourable with the median usual consumption

of 3-4 standard drinks for men and 1-2 standard drinks for women in the Australian community (Australian Bureau of Statistics, 1993). No such increments were observed in the other two conditions.

Table 20 Normative Comparisons – percentage of participants drinking within normative levels (Study 1)

	Baseline male / female	At 2 months male / female	Six months male / female
CBT+SCE	0% / 4%	39% / 0%	91% / 29%
CIAF	0% / 3%	4% / 3%	4% / 0%
WL	0% / 0%	0% / 0%	not applicable

4.8 Changes in Alcohol-related problems

To assess the changes in alcohol-related problems Wilcoxon tests were undertaken from baseline to 6-months follow-up within each condition. As can be seen from Table 21, there were significant reductions in a range of alcohol-related problems in both the groups.

Table 21 Percentage of participants reporting problems associated with alcohol for CBT+SCE and CIAF conditions are pre and 6-month follow-up (Study 1)

Alcohol-related problems	**CBT+SCE** Pre	**CBT+SCE** 6-month Follow-up	**CIAF** Pre	**CIAF** 6-month Follow-up
Problems at work	33%	0% ****	6.7	0 ****
Lost a job	0%	0%	3.3	0 **
Relationship problems	56%	11% ****	76%	39% ****
Injured another person	10%	0% ****	25%	8.8% **
Trouble with the law	10%	0% ***	8%	5.9%
Health problems	41%	0% ****	53%	21% ***

Wilcoxon significance (in comparison with Pretest):
**** $p < 0.0001$; *** $p < 0.001$; ** $p < 0.002$

4.9 Prediction of Quantity and Frequency of Drinking at Posttreatment

A linear regression with simultaneous entry was undertaken to predict Quantity of consumption and Frequency of consumption at post treatment. Consumption at baseline (Qapredr1), pretreatment SADQ-C score (PreSADQ), pretreatment ICQ score (PreICQ), age, CDSES at baseline (CDSES Pre), Optimism (LOT), Outcome Expectancy (OE), Gender, treatment conditions (CBT+SCE / CIAF), and Immediate treatment / Delayed treatment (IMMDELAY) were entered into the equation. The regression equation was significant $F(10,137) = 16.71$, $p<0.001$. Table 22 outlines the results. The significant predictors of post treatment Quantity of drinking were: quantity of drinking at baseline, treatment condition (CBT+SCE), and higher optimism. The correlations and significance of the regression analysis are presented separately in Appendix 3 as Table 22 A.

Table 22 Predicting Quantity of Consumption at Post treatment (Study 1).

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.741 [a.]	0.549	.517	1.0625

[a.] Predictors: (Constant), IMMDELAY, Pretreatment icq totals, OE, AGE, pretreat sadq, CBTCIAF, QAPREDRI, LOT, GENDER, CDSESPRE

Coefficients

Predictors	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations
	B	Std. Error	Beta			
(Constant)	1.166	.998		1.169	.245	
QAPREDR1	.327	.043	.462	7.680	.001	.448
pretreat sadq	-1.01E-02	.932	-.019	-.317	.751	.038
pretreatment icq	1.391E-02	.054	.015	.258	.797	.004
AGE	2.832E-02	.009	.020	.333	.740	-.013
CDSESPRE	-1.57E-04	.001	-0.37	-.596	.552	-.177
LOT	3.288E-02	.009	.225	3.744	.001	.239
OE	-2.54E-03	.004	-0.42	-.685	.494	-.050
GENDER	.361	.186	.118	1.943	.054	.082
CBTCIAF	-.790	.093	.093	-8.483	.001	-.516
IMMDELAY	6.895E-02	.097	.042	.714	.476	.067

4.10 Prediction of Frequency of Drinking at Post treatment

A separate regression analysis was undertaken to investigate the predictors of frequency of drinking at post treatment. The regression equation was significant (F (10,137) = 14.61, p<0.001. Table 23 summarises the results. The only significant predictor of post treatment frequency of drinking was treatment condition, i.e. CBT+SCE. The correlations and significance of the regression analysis are presented separately in Appendix 3 as Table 23A.

Table 23 Predicting Frequency of Drinking at Post treatment (Study 1).

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.718 [a]	0.516	0.481	0.8552

[a] Predictors: (Constant) FRPREDR1, pretreat sadq, CBTCIAF, LOT, AGE, pretreatment icq, GENDER, OE, IMMDELAY, CDSESPRE

Coefficients

Predictors	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations
	B	Std. Error	Beta			
(Constant)	2.302	.938		2.454	.015	
Pretreat sadq	1.187E-02	.026	.028	.463	.644	.050
Pretreatment icq	4.542E-02	.043	.065	1.052	.295	.000
AGE	7.646E-02	.007	.068	1.107	.270	.080
CDSESPRE	-7.88E-02	.001	-.024	-.369	.713	-.196
LOT	6.77OE-03	.007	. 060	.962	.338	-.001
OE	-3.64E-03	.003	-0.77	-1.216	.226	-.169
GENDER	.251	.146	.106	1.719	.088	.193
CBTCIAF	-.802	.075	-.678	-10.681	.001	-.694
IMMDELAY	5.372E-02	.085	.042	.647	.519	.016
FRPREDR1	1.032E-02	.095	.007	.109	.913	-.018

4.11 Prediction of Quantity of Drinking at Follow-up

Similar to the previous prediction analysis, a linear regression analysis was undertaken to predict quantity of consumption and frequency of consumption at follow up. The regression equation was significant (F = 34.39), $p < 0.001$. Table 24 summarises the results. The significant predictors of quantity of consumption at follow up were: treatment condition (CBT+SCE), CDSES Post, quantity of consumption at baseline, and receiving immediate treatment. The correlations and significance of the regression analysis are presented separately in Appendix 3 as Table 24 A.

Table 24 Predicting Quantity of Drinking at Follow-up (Study 1).

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.889[a]	0.791	0.768	1.2497

[a] Predictors: (Constant): QAPREDR1, CDSESPRE, pretreat sadq, OE, pretreatment icq, AGE, IMMDELAY, CBTCIAF, LOT, GENDER, CDSESPOS

Coefficients

Predictors	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Constant	1.056	1.445		.731	.467
CDSESPRE	-2.98E03	.001	-.423	-.2.249	.027
CDSESPOS	4.332E-03	.002	.608	2.829	.006
AGE	1.624E-02	.012	.064	1.348	.181
IMMDELAY	-.703	.220	-.252	-3.197	.002
CBTCIAF	-2.498	.146	-.965	-17.135	.001
GENDER	8.709E-02	.254	.017	.343	.732
QAPREDR1	.280	.060	.229	4.671	.001
Pretreat SADQ	-7.72E-02	.045	-.082	-1.720	.089
Pretreat ICQ	-1.65E-02	.073	-.011	-.226	.822
OE	1.057E-03	.005	.011	.216	.830
LOT	1.023E-02	.011	.046	.954	.342

4.12 Prediction of Frequency of Drinking at Follow-up

A separate regression analysis was undertaken to investigate the predictors of frequency of drinking at follow-up. The regression equation was significant (F = 13.49, $p<0.001$). Table 25 summarises the results. The predictors of frequency of drinking at follow-up were: treatment condition, i.e. CBT+SCE, CDSESPOST, receiving immediate treatment, and LOT. The correlations and significance of the regression analysis are presented separately in Appendix 3 as Table 25 A.

Table 25 Predicting Frequency of Drinking at Follow-up (Study 1)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.771[a]	0.595	.551	.6762

[a] Predictors: (Constant): FRPREDR1, CDSESPRE, pretreat sadq, OE, pretreatment icq, AGE, IMMDELAY, CBTCIAF, LOT, GENDER, CDSESPOS

Coefficients

Predictors	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
Constant	2.014	.866		2.326	.022
CDSESPRE	-1.65E-03	.001	-.602	-2.342	.021
CDSESPOS	2.045E-02	.001	.734	2.501	.014
AGE	1.308E-02	.006	.136	2.088	.039
IMMDELAY	-.285	.125	-.262	-2.285	.024
CBTCIAF	-.825	.079	-.819	-10.480	.001
GENDER	4.703E-02	.131	.023	.358	.721
Pretreat SADQ	1.933E-02	.024	.053	.801	.425
Pretreat ICQ	3.299E-02	.039	.055	.839	.403
LOT	1.160E-03	.003	.030	.439	.662
OE	1.312E-02	.006	.153	2.287	.024
FREPREDR1	-.163	.085	-.134	-1.911	.059

4.13 Pretreatment Alcohol Dependence (SADQ-C), Pretreatment Impaired Control (ICQ), Pretreatment Self-efficacy (CDSES), and Posttreatment Self-efficacy (CDSES) as predictors.

In addition to the above regression analyses, four separate regression analysis were undertaken to examine the predictive nature of pretreatment SADQ-C, pretreatment ICQ, pretreatment CDSES, and post treatment CDSES separately.

Results suggest that when SADQ-C was entered as the dependant variable, the model was significant ($F = 19.34$, $p<0.001$). As can be seen from Table 26, the pretreatment SADQ-C was predictive of SADQ-C at follow-up, and those assigned to the CBT+SCE condition made significant improvements and their SADQ-C scores at follow-up reduced significantly. When ICQ was entered as the dependant variable, the model was significant ($F=8.45$, $p<0.001$). From Table 27 it is clear that the pre treatment ICQ was predictive of follow-up ICQ and those assigned to receive CBT+SCE had significant reductions in the follow-up ICQ scores. When pretreatment CDSES was entered as the dependant variable, the model was significant ($F =28.74$, $p<0.001$). From Table 28 it is evident that pre treatment CDSES was predictive of follow-up CDSES. In addition, pretreatment Optimism was also a significant predictor. This result also confirms the superior performance of the CBT+SCE condition. It is clear from these findings that subjects

who received CBT+SCE and were optimistic with high confidence to meet different situational challenges fared well.

In addition, a further analysis was undertaken with the post treatment CDSES entered as the dependant variable. Results suggest that the model predicting follow-up CDSES was significant ($F=30.60$, $p<0.001$). The significant predictors of follow-up CDSES within the model were CDSESPOST, CBTCIAF, IMMDELAY, and LOT. That is, a higher CDSES at post predicted higher CDSES at follow up. In addition, the intervention CBT+SCE, receiving immediate treatment and optimism were also significant predictors (see Table 29).

Table 26 Pretreatment SADQ-C entered as the dependant variable (Study 1)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.823[a]	0.678	0.643	1.607

[a] Predictors: (Constant), CBTCIAF, LOT, FRPREDR1, pretreatment icq, GENDER, AGE, pretreat sadq, CDSESPRE, OE, IMMDELAY

Coefficients

Predictors	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Constant	2.135	2.107		1.013	.313
GENDER	.603	.321	.113	1.880	.063
QAPREDR1	7.030E-02	.078	.056	.898	.372
FRPREDR1	-3.88E-02	.205	-.012	-.189	.850
Pretreat sadq	.288	.056	.298	5.140	.001
Pretreat icq	-.125	.093	-.078	-1.345	.182
OE	3.837E-04	.006	.004	.061	.951
AGE	4.696E-04	.015	.002	.031	.975
CDSESPRE	-1.71E-04	.001	-.023	-.384	.702
LOT	-7.57E-04	.014	-.003	-.055	.956
IMMDELAY	.182	.184	.063	.986	.327
CBTCIAF	-1.929	.161	-.718	-12.002	.001

Table 27 Pretreatment ICQ entered as the dependant variable (Study 1)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.692[a]	0.479	0.423	1.7306

[a] Predictors: (Constant), CBTCIAF, LOT, FRPREDR1, pretreatment icq, GENDER, AGE, pretreat sadq, CDSESPRE,QAPREDR1, OE, IMMDELAY

Coefficients

Model	UnstandardiZed Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	3.940	2.262		.1741	.085
GENDER	1.357E-02	.347	.003	.039	.969
QAPREDR1	6.199E-02	.082	.059	.757	.451
FRPREDR1	-.307	.222	-.112	-1.383	.170
Pretreat sadq	-1.43E-02	.060	-.017	-.236	.814
Pretreatment icq	.356	.100	.263	3.551	.001
OE	1.526E-03	.007	.018	.226	.821
AGE	-4.72E-03	0.16	.001	-.291	.771
CDSESPRE	-6.08E-04	.000	.078	-1.263	.210
LOT	1.488E-04	.015	-.623	.010	.992
IMMDELAY	.191	.198	.078	.964	.337
CBTCIAF	-1.416	.173	-.623	-8.197	.000

Table 28 Pretreatment CDSES as a predictor (Study 1)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.872 [a]	.760	.733	177.0671

[a] Predictors: (Constant), GENDER, CDSESPRE, LOT, pretreat sadq, FRPREDR1, pretreatment icq, AGE, CBTCIAF, QAPREDR1,OE, IMMDELAY

Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	606.608	232.216		2.612	.010
IMMDELAY	-20.5132	20.607	-.055	-.995	.322
CBTCIAF	179.782	17.802	.525	10.099	.000
CDSESPRE	.536	.049	.579	10.904	.000
AGE	.249	1.659	.008	.150	.881
OE	-.289	.701	-.022	-.412	.681
LOT	6.325	1.541	.217	4.106	.000
pretreat sadq	5.067	6.244	.041	.811	.491
pretreatment icq	1.491	10.390	.007	.144	.886
FRPREDR1	.3464	22.706	.008	.153	.879
QAPREDR1	9.802E-02	8.658	.001	.011	.991
GENDER	52.902	35.710	.077	1.481	.142

Table 29 Post treatment CDSES as a predictor (Study 1)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.888 [a]	.788	.762	167.2862

[a] Predictors: (Constant), FRPREDR1, pretreatment ICQ, GENDER, LOT, CBTCIAF, AGE, pretreat SADQ, QAPREDR1, CDSESPRE, OE, IMMDELAY, CDSESPOS

Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	528.074	220.464		2.395	.018
CDSESPOS	.733	.203	.777	3.610	.000
CDSESPRE	-7.26E-02	.175	-.078	-.416	.679
AGE	.288	1.567	.009	.184	.855
CBTCIAF	143.207	19.634	.418	7.294	.000
IMMDELAY	-111.257	31.792	-.300	-3.500	.001
GENDER	44.307	33.821	.065	1.310	.193
OE	-.539	.666	-.041	-.809	.420
LOT	5.900	1.460	.202	4.040	.000
Pre SADQ	.780	6.017	.006	.130	.897
Pre ICQ	4.689	9.856	.023	.467	.635
QAPREDR1	2.580	8.209	.016	.313	.754
FRPREDR1	-10.546	21.800	-.026	-.484	.630

5 DISCUSSION - Study 1

This is the first randomized controlled trial to investigate the impact a cognitive behavioural plus guided self-exposure and response prevention condition (CBT+SCE) and an assessment feedback condition (CIAF) in a correspondence format. This pilot trial has demonstrated the feasibility of applying a correspondence-based self-directed exposure treatment for problem drinkers. This is encouraging and compares well with similar manual assisted treatments for other psychological problems such as OCD, deliberate self-harm and nightmares (Burgess et al, 1994, 1998; Marks et al, 1998; and Evans, Tyrer, Catalan, Schmidt, Davidson, Dent, Tata, Thornton, Barber and Thompson, 1999).

The trial recruited self-referred problem drinkers who wished to reduce their drinking rather than choose an abstinence goal. Problem drinkers from every state in Australia participated in this trial. Participation by females was high (48%), comparable to the Kavanagh et al (1999) trial 51%, and the Sitharthan et al's (1996) trial 42%.

The first hypothesis that the treatment conditions CBT+SCE and CIAF would fare better than the WL condition was maintained. In the first

comparison at 2-months between those assigned to the CBT+SCE, CIAF, and the WL condition; participants assigned to the CBT+SCE and the CIAF conditions fared better than those in the WL condition in terms of reducing the quantity and frequency of drinking. Similarly, as predicted, in terms of reductions in quantity and frequency of drinking, those assigned to receive CBT+SCE did significantly better than those in the CIAF group.

The second hypothesis that at the 6-month follow-up, those assigned to the CBT+SCE would fare better than those assigned to the CIAF group was also maintained. In this comparison, the subjects in the CBT+SCE condition did significantly better than the CIAF group in terms of reductions in the quantity and frequency of drinking. There were no gender differences at the follow-up outcomes, with both males and females in the CBT+SCE condition improving significantly. Furthermore, while there was a drop in consumption quantity in the CIAF group from baseline to post, there was a gradual increment from post to follow-up. The study also demonstrated that those who received immediate treatment fared significantly better in terms of reducing their quantity and frequency of alcohol consumption, compared to those who received treatment after some delay.

In addition, Normative Comparisons were undertaken to determine the proportion of participants drinking at the level comparable to the Australian community. There were no males in all the three conditions at baseline who were drinking four or less standard drinks. However, at post treatment, 39% of males in the CBT+SCE and 4% males in the CIAF condition were drinking within this level. At the 6-month follow-up, there was a significant increment in the number of men drinking at normative levels in the CBT+SCE condition (91%). There were no such improvements in the CIAF condition between post and follow-up period (4%). With regards to females, only 4% in the CBT+SCE condition and 3% in the CIAF condition were drinking two standard drinks or less at baseline. At the six month follow-up, 29% of the females in the CBT+SCE condition were drinking within these limits, while there was no female in the CIAF condition consuming in this range.

With respect to changes in alcohol-related problems, significant reductions were observed in alcohol-related problems in the two intervention groups. Subjects assigned to CBT+SCE and CIAF conditions showed reductions in alcohol-related problems such as problems at work, relationship problems, causing injury to another person, trouble with the law

and health problems. Of additional interest is the impact of interventions in preventing / reducing injuries. In a systematic review of whether interventions for drinking problems assist in preventing further injuries, Dinh-Zarr, Diguiseppi, Heitman and Roberts (1999) noted that out of 7014 published and unpublished studies, only nine trials met the stipulated full four inclusion criteria (including Sitharthan et al, 1997), and nine met three inclusion criteria (including Sitharthan et al, 1996). Their review indicated that treatment for problem drinking assisted in reductions / further prevention of injuries. The present study also lends support to their findings, as participants in both the conditions showed significant reductions following intervention.

With respect to analyzing changes in secondary outcome measures as a result of interventions, self-efficacy ratings (CDSES) increased significantly from baseline to follow-up in both the treatment conditions (CBT+SCE and CIAF). Similarly, there were significant reductions in alcohol dependence (SADQ-C) and impaired control (ICQ) scores from baseline to follow-up in both the groups. However, no such changes were observed in the WL group. However, the comparison between the CBT+SCE and the CIAF group on these measure indicated that CDSES was significantly higher

at follow-up in the CBT+SCE condition compared to the CIAF group. Similarly, there were significant differences in SADQ-C and the ICQ at follow-up between the CBT+SCE and the CIAF conditions, with CBT+SCE condition faring better. That is, the CBT+SCE group had higher confidence in facing different challenging situations and lower scores on alcohol dependence and impaired control over alcohol intake, compared to the CIAF condition at follow-up.

With regards to predicting Quantity of Drinking (Consumption) and Frequency of Drinking at post treatment; the significant predictors of consumption quantity were treatment condition (CBT+SCE), optimism and pretreatment drinking levels. The significant predictors of drinking frequency was again treatment condition (CBT+SCE). It is interesting to note that only CBT+SCE treatment condition was the predictor of post treatment quantity and frequency. While both pretreatment drinking level and optimism were predicting consumption quantity at post, they were not significant predictors of frequency of drinking at post.

With respect to predicting Quantity of Drinking (Consumption) and Frequency of Drinking at follow-up; treatment condition (CBT+SCE), self-efficacy at post, pre treatment drinking levels and receiving immediate treatment were superior predictors of quantity of drinking at follow-up. The superior predictors of frequency of drinking at follow-up were once again treatment condition (CBT+SCE), self-efficacy at post, receiving immediate treatment and high optimism.

Consistent with social cognitive theory (Bandura, 1996), and the earlier findings of Solomon and Annis (1990), self-efficacy was a better predictor of quantity of consumption and frequency of consumption, compared to outcome expectancy as measured by OEQ.

In addition to the above mentioned prediction analysis, four separate regression analysis were also undertaken to investigate the predictive strength of pre-SADQ-C, pre-ICQ, pre-CDSES and post-CDSES. The superiority of the treatment condition (CBT+SCE) was maintained throughout. Pretreatment SADQ-C was predictive of SADQ-C at follow-up along with treatment condition, and pretreatment ICQ along with treatment

condition was predictive of ICQ at follow-up. Pretreatment CDSES, treatment condition, and optimism were predictive of follow-up CDSES. Similarly, post CDSES, treatment condition (CBT+SCE), optimism, and immediate treatment were superior predictors of follow-up CDSES.

An important feature of this study was that it provided adequate descriptions of the study samples. Morley et al (1996) deemed that adequate description of the study samples as essential for replication purposes and the generalizability of the results. They further noted that very few clinical trials provided adequate descriptions of their study samples and recommend that the following eight characteristics should be reported in clinical trials: (1) gender, (2) age, (3) education, (4) marital status, (5) employment, (6) number of years of problem drinking, (7) diagnostic status, and (8) race. The current study sought information about all these characteristics except race.

Morley et al (1996) further noted that only 50% of treatment studies provided descriptive information regarding the following: (1) How many subjects were recruited? (2) How many refused to participate? (3) How many people did not meet the inclusion / exclusion criteria? (4) How many people

were randomized to treatment? and (5) How many people actually started treatment? The present study sought and provided all this information in detail.

This study is not without limitations. While this investigation shows that CBT+SCE is superior to CIAF, it does not provide any information if adding the self directed exposure and response prevention component (SCE) is beneficial over and above the standard CBT component. Future investigations should include a standard CBT group vs a CBT+SCE group to tease out the added benefits of the self directed exposure component.

This investigation like the previous correspondence treatment programs (e.g. Kavanagh et al, 1999; Sitharthan et al, 1996) also relies on participants self-reports of alcohol consumption. While there is some doubt of the accuracy of self-reports, there is also a general consensus that subjects who volunteer to take part in treatment trials provide accurate reports of alcohol consumption (Babor et al, 2000; Sobell et al, 1988).

Another limitation of the current program is that it did not attract subjects from a younger age range. The mean age of the participants in this

trial was 47 years and this compares to the Sitharthan et al trial (1996) (mean age 46 years), the Kavanagh et al trial (1999) (mean age 44.5 years), and the Sobell et al trial (1996) (mean age 50.4 years). Perhaps trials of this nature in general fail to attract younger people, or it could be that young people do not see the need to cut down excessive drinking.

The comprehension of the self-directed exposure and response prevention component was ascertained by a simple exercise. Participants in the CBT+SCE condition were mailed out the following questions as part of the second mailing.

1. If you are a male, how many standard drinks of priming doses should you drink?
2. If you are a female, how many standard drinks of priming doses should you drink?
3. In how many minutes should you drink the priming doses?
4. How do you prepare to drink the priming doses?
5. Where would you commence the practice sessions?
6. If applicable, who is going to be your co-participant?
7. What would you do after consuming your priming doses?
8. How long would you need to hold and smell the drink following the priming

doses?

9. If you have the urge to drink that "extra" drink what should you do?

10. What will you be focusing on when you have the extra drink?

11. When will you end the session?

12. When will you have the next session and where will it be planned?

Only 54 participants (out of 63) assigned to the CBT+SCE condition provided this information. The researcher merely examined the returned responses for any discrepancies and in only three cases had to call the participants to verify their responses (e.g. the number of people going to act as co-participants). No additional verification checks were applied due to the nature of the trial. In addition, this method of data collection was not scored and only provided a rudimentary verification of the participants comprehension. Future trials can probably develop a specific scale to assess the participants comprehension for self-exposure based exercises.

In addition to the above limitations, longer follow-up periods may also cast some light about the robustness of the CBT+SCE over time.
While no formal cost-effectiveness was undertaken, it should be pointed out that the materials sent to the participants were simple and cheap to post and monitor. It cost about $9.00 per person for postage for those in the CBT+SCE group, and $6.30 cents per person for those in the CIAF

group.

Although the results of this pilot investigation is encouraging as it indicates that clinic-based exposure and response prevention programs (Sitharthan et al, 1997) can be extended to self directed exposure and response prevention delivered via mail, the study should be replicated to gain more confidence in the findings. If the robustness of this procedure is maintained then it can be an added intervention in the stepped care approach (Sobell and Sobell, 2000), particularly for people who do not wish to or cannot attend an alcohol treatment agency. In addition, as there are very few clinicians in the community (e.g. psychologists, psychiatrists) who have the expertise to deliver exposure-based therapies, a correspondence approach of this nature may be ideal as one of the first line of interventions.

6. STUDY 2 - FACTOR ANALYSIS OF THE CONTROLLED DRINKING SELF-EFFICACY SCALE (CDSES)

6.1 Aims

As mentioned in the earlier section of this thesis, the aims of Study 2 were:

(1) to explore the factor structure of the CDSES,

(2) examine the gender differences on the CDSES, and

(3) inspect the relationship between self-efficacy and alcohol dependence (mild-moderate vs. severe dependence).

A paper addressing the above aims is currently in press (Sitharthan, Job, Kavanagh, Sitharthan and Hough, in press).

6.2 METHOD

6.3 Participants

Subjects were 652 problem drinkers. The sample comprised of subjects recruited from the following five sources: (a) 121 participants who took part in a previously reported trial of correspondence intervention for problem drinking (Sitharthan et al., 1996), (b) 42 participants who took part in a cue exposure treatment trial for alcohol abuse (Sitharthan et al., 1997), (c) 98 participants

recruited from alcohol treatment clinic to take part in a study on learned helplessness in problem drinkers (Sitharthan, et al., *in press*), (d) another set of 178 participants who took part in a modified correspondence treatment program (Sitharthan, et al., 1998), (sample from Study 1), and finally (e) 213 participants who presented to an outpatient alcohol treatment agency.

6.4 Measures

6.4.1 Severity of Alcohol Dependence Questionnaire - Form C (SADQ-C; Stockwell et al., 1994).

The SADQ-C is a 20-item questionnaire (alpha = .97) that covers alcohol dependence syndrome elements such as physical withdrawal, affective withdrawal, drinking for the relief of withdrawal, the experience of craving, and reinstatement of these symptoms after a period of abstinence. Items include: "*The day after drinking alcohol, my hands shook first thing in the morning*" and have four frequency responses, ranging from "*never or almost never*" (scored 0) to "*nearly always*" (scored 3). Each of the 20 items is scored from 0 to 3 resulting in a maximum possible total score of 60. It is generally regarded that people who score more than 30 have higher levels of alcohol dependence and may not fare well in moderation drinking programs (Stockwell et al, 1994).

6.4.2 Impaired Control Questionnaire (ICQ; Stockwell et al., 1994).

Impairment of control over alcohol consumption is considered as a leading element of the alcohol dependence syndrome (Edwards et al., 1977). The ICQ is a five-item scale (alpha = .98) developed to complement the SADQ-C. Items include "*When I started drinking alcohol, I found it hard to stop until I was fairly drunk*" have response alternatives similar to those in the SADQ-C.

6.4.3 Problem Drinking Questionnaire (PDQ; Kavanagh, et al., 1999; Sitharthan et al., 1996).

The PDQ is a self-report measure seeking information regarding quantity, frequency and patterns of drinking, preferred alcoholic beverages, psychosocial problems and medical complications associated with alcohol misuse, previous treatment efforts and their outcomes, and the use of other drugs. The PDQ has moderate internal consistency (alpha= .75), reflecting some heterogenity in alcohol abuse sequelae.

6.4.4 The Controlled Drinking Self-efficacy Scale (Sitharthan et al.,1996; Sitharthan et al., 1997).

The CDSES is a 20-item scale. Sample items include ["Over the next six

months"] "*How confident are you that you will not drink more than six standard drinks when you are at a party with friends*?", and ["Over the next six months"] "*How confident are you that you can stop drinking alcohol at least three days a week*?". The ratings of all items ranged from 0 (*not at all confident*) to 100 (*very confident*). The CDSES is scored by using the mean of all items, that is, the total confidence ratings divided by twenty.

6.4.5 Procedure

Participants who took part in correspondence treatment programs were mailed the PDQ, SADQ-C, ICQ, and the CDSES (Sitharthan et al.,1996). Participants who took part in the cue exposure trial (Sitharthan et al., 1997), the alcohol learned helplessness project (Sitharthan, et al., 1999), and those who presented to an outpatient alcohol treatment agency were administered these measures individually. Subjects were not paid to participate.

7 RESULTS

7.1 Sample Characteristics

The mean age of the participants was 42.5 years (SD = 10.0, range 16-65). Of the total sample, 30% were married or in a live in relationship, 20% were separated or divorced, 12% were widowed, and 37% had never married/or been in a live-in relationship. The sample had a high level of education, with most participants completing some training after high school (21% had completed 10 years of education, 18% had completed high school only, 16% had a college diploma, 14% had one university degree and 11% held a postgraduate university qualification). Forty-two percent were in full- or part-time employment, 18% were involved in home duties or were retired, and 40% were unemployed. As can be seen from Table 30, the sample had a mild/moderate level of alcohol dependence (SADQ-C M = 13.5, SD = 11.4) and impaired control of alcohol intake (ICQ M = 8.7, SD = 3.0). The median usual consumption was nine standard drinks on each drinking occasion, and 45% had 15 standard drinks or more at least once a month. Fifty-nine percent reported that they were unable to remember the night before at least once a month, and 14% drank alcohol in the morning at least once a week. High

levels of relationship problems (54%), health problems (42%) and problems at work (32%) over the last 6 months were reported, and 69% said that concern over their drinking was expressed by others.

As can be seen from Table 31, men showed significantly higher levels of problems overall, than did women in terms of ICQ and SADQ-C scores, usual number of drinks, consumption of more than 10 and 15 standard drinks, early morning drinking, relationship problems, injuring another person and reported concerns expressed by others regarding their drinking. Women, however, scored significantly higher than men in terms of reporting guilt or remorse after drinking.

TABLE 30 Information regarding alcohol consumption and the experience of alcohol- related problems for the entire sample (Study 2).

ICQ	Mean 8.66 (SD 2.96)
SADQ-C	Mean 13.50 (SD 11.41)
Usual number of drinks	6 drinks (n = 161, 24.7%) 9 drinks (n = 201, 30.9%) 10 or more (n = 224, 34.3%)
Consumption more than 10 drinks	Once a month (n = 110, 16.9%) Once a week (n = 197, 30.4%) Daily or almost daily (n = 165, 25.5%)
Consumption more than 15 drinks	Once a month (n = 87, 13.5%) Once a week (n = 116, 18.1%) Daily or almost daily (n = 87, 13.5%)
Early morning drinking	Once a month (n = 39, 6%) Once a week (n = 54, 8.31%) Daily or almost daily (n = 75, 11.6%)
Guilt or remorse after drinking	Once a month (n = 120, 18.7%) Once a week (n = 218, 33.9%) Daily or almost daily (n = 159, 24.7%)
Unable to remember the night before	Once a month (n = 157, 24.3%) Once a week (n = 152, 23.6%) Daily or almost daily (n = 70, 10.9%)

TABLE 30 (continued)

Information regarding alcohol consumption and the experience of alcohol-related problems for the entire sample (Study 2)

Longest period of continuous drinking	*M* = 17.39 hours, *SD* = 21.70 hours (range 0-96hrs)
Longest period below 3 drinks a day	*M* = 12.52 days, *SD* = 22.25 days (range 0 -180)

Problems experienced in the past 6 months

Problems at work	31.8%
Lost a job	5.4%
Relationship problems	54.3%
Injured another person	12.3%
Trouble with the law	9.8%
Health problems	41.7%
Concern expressed by others	69.0%

TABLE 31 Information regarding alcohol consumption and the experience of alcohol-related problems for males and females (Study 2)

	Men (n = 370)	**Women (n = 276)**
ICQ *	Mean 9.21 (SD 3.0)	Mean 7.93 (SD 2.8)
SADQ-C *	Mean 15.93 (SD 12.5)	Mean 10.67 (SD 9.2)
Usual number of drinks *	6 drinks = 18.4% 9 drinks = 29.2% 10 or more = 46.4%	6 drinks = 33.7% 9 drinks = 33.3% 10 or more = 17.8%
Consumption more than 10 drinks *	Once a month = 15.2% Once a week = 35.8% Daily or almost daily = 35%	Once a month = 19.6% Once a week = 23.3% Daily or almost daily = 12%
*Consumption more than 15 drinks**	Once a month = 16.6% Once a week = 24.6% Daily or almost daily = 19.6%	Once a month = 9.6% Once a week = 8.8% Daily or almost daily = 4.8%
Early morning drinking *	Once a month = 7.6% Once a week = 12% Daily or almost daily = 14.7%	Once a month = 4% Once a week = 3.6% Daily or almost daily = 6.9%

* Significant at $p<0.01$ level

TABLE 31 (continued)

Information regarding alcohol consumption and the experience of alcohol-related problems for males and females (Study 2)

	Men (n = 370)	Women (n = 276)
Guilt or remorse after drinking *	Once a month = 18.9% Once a week = 30.6% Daily or almost daily = 23.2%	Once a month = 18.8% Once a week = 38.6% Daily or almost daily = 26.8%
Unable to remember the night before	Once a month = 24.7% Once a week = 24.4% Daily or almost daily = 12.6%	Once a month = 24% Once a week = 22.5% Daily or almost daily = 8%
Longest period of continuous drinking	*M* = 33.81 hours SD = 31.09 hours (range 2-99 hrs)	*M* = 10.56 hours SD = 3.78 hours (range 6-16hrs)
Longest period below 3 drinks a day	*M* = 20.71 days *SD* = 28.13 days (range 0 - 99)	*M* = 6.67 days *SD* = 4.03 days (range 2-14)

Problems experienced in the past 6 months

Problems at work	35.6%	26.9%
Lost a job	7.9%	2.2%
Relationship problems **	59.8%	46.5%
Injured another person **	15.4%	6.9%
Trouble with the law	14.4%	3.3%
Health problems	39.0%	44.3%
Concern expressed by others *	76.4%	58.9%

* Significant at p<0.01 level; ** Significant at p<0.001 level

7.2 Normative and reliability data on CDSES

The mean of the 20-item CDSES was 1116.3, the median was 1130, and the standard deviation was 420.7. The internal consistency of the CDSES by coefficient alpha was .95. Test-retest reliability assessed two weeks apart on a sample of 40 people awaiting alcohol intervention from a treatment agency indicated high reliability $r = .90$. Undertaking an item by item alpha correlation suggests that the reliability of the CDSES is not enhanced by deleting any items.

7.3 Factor Analysis of the CDSES

The 20-item CDSES was factor analyzed using the full sample ($n = 652$). The principal component extraction techniques was applied. Following extraction, both orthogonal (varimax) and oblique (oblimin) rotations were performed to improve the interpretability of the obtained solution. The oblique solution was preferred as it almost eliminates double-loadings. Inspection of the various solutions revealed that the different extraction techniques, combined with the different rotations, resulted in a four factor solution (see Table32). Both Kaiser criterion (eigenvalue >1), and the scree method supported the

extraction of four factors. The principal component extraction with an oblique rotation will be reported here. Only item loadings in excess of .30 were retained as they are considered eligible for interpretation (Tabachnick and Fidell, 1983). The first factor (8 items) accounted for 47.6% of the variance, and had items covering emotional reactions, particularly relating to depression, irritation, worry, anger or stress. It was tentatively labeled Negative Affect, although aspects reflected more general responses to affectivity. The second factor (3 items) accounted for 10.8% of the variance, and had items covering confidence to control the frequency of drinking. It was labeled Frequency of Drinking. The third factor (7 items) accounted for 7.6% of the variance, and covered items relating to drinking at a party with friends, when in a "shout"[1] situation, when offered free drinks, etc. It was labeled Positive Mood / Social Context. The fourth factor (2 items) accounted for 5.2% of the variance, and related to confidence to control of Consumption Quantity. High internal consistency was obtained for each of these sub-scales: .92 for Negative Affect, .93 for Frequency of Drinking, .89 for Positive Mood / Social Context, and .79 for Consumption Quantity. The factor correlation matrix is presented in Table 33. It can be seen from this table that Factors 1 and 3 are highly correlated.

7.4 The Effect of Gender and Alcohol Dependence on Factor Scores

A series of 2-way (Gender x Dependence) ANOVA's was undertaken to evaluate the effect of gender and alcohol dependence on factor scores for each of the four factors in the whole sample. Because the sample size for mild SADQ-C (n = 575) and severe SADQ-C groups (n = 61) are unequal, a correction was made for correlated effects using the regression approach (Stevens, 1992). As can be seen from Table 34, the main effect for gender was only significant for Factor 3 (Positive Mood / Social Context). Men were more likely to have low self-efficacy compared to women in situations involving positive mood / social context. The main effect for alcohol dependence was significant for Factor 1 (Negative Affect), Factor 2 (Frequency of Drinking), and Factor 3 (Positive Mood / Social Context). Subjects with high dependence had low confidence (self-efficacy scores) for situations relating to negative affect, social situations and drinking less frequently.

7.5 Factor Analysis for Males and Females

Factor analyses were also undertaken for men and women, using the same procedures as in the total sample. Results are displayed separately in

Tables 35 and 36. The men showed a similar factor structure to the whole sample, with the four factors having similar item loadings and accounting for comparable proportions of variance (50.0%, 10.70%, 6.9%, and 5.2% r espectively). In contrast, only three factors emerged in the analysis of data on female participants. The first and third factors were similar to those in the other analyses (Negative Affect 44.7% variance and Positive Mood / Social Context 8.6%). However, the second and the fourth factors (Frequency of Drinking and Consumption Quantity) collapsed into a single factor accounting for 11.3% of the variance.

Table 32 Total Variance and the Rotated Component Matrix for the total sample (Study 2)

FACTORS	Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %
1. Negative Affect	9.51326	47.6	47.6
2. Frequency of Drinking	2.15072	10.8	58.3
3. Positive Mood / Social Context	1.52048	7.6	65.9
4. Consumption Quantity	1.04390	5.2	71.1

	FACTORS			
	Negative Affect	Frequency of Drinking	Positive Mood / Social Context	Consumption Quantity
SE 02	.98996			
SE 07	.84923			
SE 01	.83386			
SE 10	.81852			
SE 14	.80719			
SE 06	.66901			
SE 03	.58473			
SE 05	.35369			
SE 19		.98311		
SE 18		.92474		
SE 20		.89692		
SE 11			.93440	
SE 04			.81767	
SE 15			.81434	
SE 12			.67062	
SE 13			.55394	
SE 08			.55190	
SE 09			.40622	
SE 17				.78629
SE 16				.68268

Table 33 Factor Correlation Matrix (total sample) (Study 2)

	Negative Affect (Factor 1)	Frequency of Drinking (Factor 2)	Positive Mood / Social Context (Factor 3)	Consumption Quantity (Factor 4)
Negative Affect (Factor 1)	1			
Frequency of Drinking (Factor 2)	0.39865	1		
Positive Mood / Social Context (Factor 3)	0.59707	0.33435	1	
Consumption Quantity (Factor 4)	0.18157	0.10967	0.24564	1

Table 34 2-WAY Gender x Dependence ANOVA's for factor scores (Study 2)

	Gender		Dependence	
	F	*p*	*F*	*p*
Negative Affect (Factor 1)	0.198	.656 *ns*	31.089	.001
Frequency of Drinking (Factor 2)	0.147	.702 *ns*	28.721	.001
Positive Mood / Social Context (Factor 3)	14.424	.001	30.552	.001
Consumption Quantity (Factor 4)	1.588	.208 *ns*	2.404	.122 *ns*

The Gender x Dependence interaction was not significant in each ANOVA

Table 35 Rotated Component Matrix - Males (Study 2)

	FACTORS			
	Negative Affect	Frequency of Drinking	Positive Mood / Social Context	Consumption Quantity
SE 02	.97042			
SE 07	.89244			
SE 01	.85022			
SE 10	.77288			
SE 14	.76524			
SE 03	.75714			
SE 06	.72187			
SE 08	.52908			
SE 05	.44998			
SE 19		.98104		
SE 18		.93122		
SE 20		.89288		
SE 11			.89791	
SE 04			.81074	
SE 15			.75922	
SE 12			.63489	
SE 13			.40890	
SE 09			.40376	
SE 17				.77345
SE 16				.70496

Table 36 Rotated Component Matrix - Females (Study 2)

	FACTORS		
	Negative Affect	Frequency of Drinking & Consumption Quantity	Positive Mood / Social Context
SE 02	.96224		
SE 10	.87333		
SE 07	.84668		
SE 14	.81429		
SE 01	.79773		
SE 06	.65780		
SE 03	.49130		
SE 09	.46164		
SE 05			
		.97019	
SE 19		.90642	
SE 20		.87711	
SE 18		.43957	
SE 17			
SE 11			.95219
SE 15			.84889
SE 04			.81388
SE 08			.68277
SE 13			.65841
SE 12			.56587
SE 16			.47002

7.6 Relation of self-efficacy with alcohol dependence

A series of t-tests was undertaken to compare the means between high and low SADQ-C scores across the twenty self-efficacy scale (CDSES) items. Subjects who score 30 or under on the SADQ-C are considered to be mild-moderately dependent on alcohol, and those who score between 31 to 60 are considered to be severely dependent on alcohol (Stockwell et al., 1994).

There was a significant difference between the means of the mild-moderate and the severely dependent subjects on all but one of the CDSES items (see Table 37). The only self-efficacy item where the difference was not significant was the item addressing the confidence "not to drink more than one drink on any drinking occasion". That is, participants in both dependence categories lacked confidence in their ability to stop after having one drink. This reflected the sensitivity of that item to relatively mild alcohol problems. In terms of gender differences, women compared to men, reported greater confidence in their ability to drink less when they are at a party with friends ($p<0.001$), and in a "shout" situation ($p<0.0001$). There were no other differences on any other item of the CDSES.

Table 37 Means and standard deviations of the self-efficacy scale for the mild-moderate vs severely dependent subjects (Study 2)

CDSES items	Mild-moderate dependence		Severe dependence	
	M	SD	M	SD
At least 1 alcohol free day per week	78.15	29.19	59.51	40.02
At least 2 alcohol free days per week	70.85	32.40	50.57	38.67
Watching TV	69.90	27.25	51.39	36.61
Physically tired	69.86	24.89	47.05	34.71
Happy	68.44	27.44	50.25	37.69
Want to feel more confident	64.80	27.53	33.52	37.72
At least 3 alcohol free days per week	60.38	43.84	39.59	37.99
Someone offers to buy free drinks	59.72	33.03	38.77	40.34
Drinking before or with a meal	59.65	29.23	40.49	39.64
Angry	58.74	27.91	40.82	36.02
In a shout situation with friends	58.18	31.95	32.50	38.34
Irritated	58.16	27.91	32.58	35.25
Bored	56.60	29.44	36.15	35.61
Not relaxed in a social situation	54.47	30.07	31.15	35.83
Worried	52.86	28.76	35.90	35.67
Depressed	49.22	28.03	33.93	34.99
Stressed	46.43	27.84	31.72	35.11
No more than 3 drinks	45.76	28.43	22.21	35.90
At a party with friends	44.31	30.83	32.87	36.18
No more than 1 drink	28.48	26.77	19.51	33.93

8. DISCUSSION - STUDY 2

This study demonstrated a high level of test-retest reliability and internal consistency for the parent scale (CDSES) and its subscales. Principal components analysis of both the entire sample and of the men in the sample identified four factors, namely; Negative Affect, control over Frequency of Drinking, Positive Mood / Social Context, and control over Consumption Quantity. In a separate factor analysis for women, only three factors were identified, namely; Negative Affect, Positive Mood / Social Context, and control over Frequency of Drinking and Consumption Quantity collapsing into a single factor.

The factor structure of the CDSES has a close parallel with the structure obtained by Young and Oei (1996) on the Drinking Refusal Self Efficacy Questionnaire (DRSEQ). They found three factors which they labeled Social Pressure, Emotional Relief and Opportunistic Drinking. The first two bear a close relationship to the factors of Social Pressure and Negative Affect. Their third factor, Opportunistic Drinking related to items such as "watching TV", "at lunch", "when waiting for someone", "on the way home from work." The substantial convergence with the first two components in the

current study lends credence to the current analysis. The absence of an equivalent to the "opportunistic" factor in this study probably reflects the lower number of these items in the CDSES compared to the DRSEQ.

However, as pointed out in the review of alcohol self-efficacy scales (Section 1.7 of this thesis), there are no specific items measuring confidence to control the frequency of drinking or quantity of consumption in the DRSEQ, or the Situational Confidence Questionnaire (SCQ) (Annis and Graham, 1988), or the Alcohol Abstinence Self-efficacy scale (AASE) (DiClemente et al, 1994). Inclusion of items specifically addressing the confidence to reduce the frequency of drinking and the quantity of drinking in the CDSES, and subsequent supportive psychometric verification indicates that the CDSES can be applied to a vast majority of problem drinkers who seek a moderation, rather than a total abstinence goal. This is potentially important, since treatment programs promoting non-abstinence goals need to assess the client's ability to reduce the frequency and quantity of drinking. In this respect, the CDSES is covering an aspect of self-efficacy that has not so far been adequately addressed by any available self-efficacy measures.

The CDSES has been used in treatment planning in outpatient and inpatient clinical settings. Previous investigations with inpatient psychiatric populations (Sitharthan et al., 1999) and outpatient clients (Kavanagh et al., 1999; Sitharthan et al., 1996; Sitharthan et al., 1997; Sitharthan et al, 2001), have demonstrated that this scale is user friendly and sensitive to changes as a result of treatment. The CDSES is also the only measure with a specific task definition, that is, enquiring about the confidence to drink less than six standard drinks in a variety of problematic high-risk situations. The CDSES also specifies a clear time frame of questioning about client's confidence. As there are more problem drinkers in the community compared with those who are physically dependent on alcohol (Institute of Medicine, 1990; Sobell and Sobell, 1993), and non-abstinence goals are generally preferred by problem drinkers (Sobell and Sobell, 1987), the CDSES has the potential to be used for a vast majority of clients.

The ability of the CDSES to predict follow-up outcomes over periods as long as 12 months has been demonstrated in a previous study (e.g. Kavanagh et al,1999). The predictive role of the CDSES was once again demonstrated in Study 1 of this thesis. Post treatment CDSES predicted quantity of drinking

and frequency of drinking at follow-up. These results are similar to the findings of Sitharthan et al (1997). In addition to the aforementioned treatment outcome trials (e.g. Kavanagh et al, 1996; Sitharthan et al, 1997; and Study 1 of this thesis), the CDSES has also been used in a study examining the learned helplessness model of depression amongst problem drinkers (Sitharthan et al, in press). The results indicate that self-efficacy, as measured by CDSES, significantly and independently mediated between alcohol dependence and depression.

Overall, the CDSES is a self-efficacy measure with sound psychometric characteristics that is well suited for use with problem drinkers who are attempting a moderation drinking goal. Not only does it have utility for prediction of outcomes, it can also assist in the planning of interventions for these populations.

9. GENERAL CONCLUSION

The major aims of Study 1 were fulfilled. This trial established the feasibility of delivering a self-directed exposure and response prevention treatment package for problem drinkers (CBT+SCE). Two intervention conditions (CBT+SCE and CIAF) were compared for their impact in reducing the quantity and frequency of alcohol consumption and alcohol-related problems. The CBT+SCE condition was far superior to the CIAF condition. In addition, the predictors of favourable treatment outcomes were also identified. Treatment condition (CBT+SCE), self-efficacy and optimism repeatedly established their predictive superiority over other variables like alcohol dependence, impaired control and outcome expectancy.

From a public health care perspective, there is an increasing emphasis to provide interventions that are inexpensive to deliver. There is also a wide spread acceptance that not all problem drinkers will attend a treatment agency. Study 1 has demonstrated that treatment by correspondence is relatively inexpensive to offer, and attracts people who otherwise may not present to a treatment agency.

The aims of Study 2 were also accomplished. The factor structure of the Controlled Drinking Self-efficacy Scale (CDSES) was explored. Four factors were identified for the overall sample. These were Negative Affect, Frequency of Drinking, Positive Mood / Social Context, Consumption Quantity. A similar four factor structure was obtained for males and a three factor structure was obtained for females, with Frequency of Drinking and Consumption Quantity collapsing into one factor. There were significant differences on the CDSES responses between subjects who could be classified as mild/moderate dependent vs severely dependent. The CDSES demonstrated its usefulness as a predictor of quantity and frequency of drinking at follow-up in Study1. This finding is similar to the results obtained in other randomized controlled trials, and lends support to the robustness of the CDSES as a useful predictor.

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APPENDIX 1

Assessment Package

PDQ

Date: __ / __ / __

Name: _____ Female _____ Male_____

Address: _____ D.O.B. __ / __ / __

_____ Age in years: _____

Post code: _____Contact Phone No. (H) _____ (W) _____

Country of Birth: _____

Referred by:

(01) Self
(02) Family/relative/friend
(03) Other alcohol/drug program
(04) Other hospital
(05) Other community health care facility or professional
(06) Job-related
(07) Legal mandate
(08) AA or other similar self-help group
(09) Advertisement
(99) Other - specify: _____

Has it been suggested to you by the police or the legal profession to seek our assistance about your drinking problem? Yes / No

If Yes, please specify:_____

Reason for referral/Presenting problem:

_____

CURRENT RELATIONSHIP

[ ] (01) Married or in a live-in relationship
[ ] (02) Separated or divorced
[ ] (03) Widowed
[ ] (04) Never married/never in a defacto relationship

CURRENT EMPLOYMENT STATUS

[ ] (01) Full-time
[ ] (02) Part-time/casual
[ ] (03) Home duties/retired
[ ] (04) Unemployed

ACCOMMODATION

(a) Where do you live?

[ ] (1) Own house
[ ] (2) Rented house/unit
[ ] (3) Parents home
[ ] (4) Half-way house
[ ] (5) Boarding house
[ ] (6) Hostel
[ ] (7) Hotel room
[ ] (8) Streets/sleeps out
[ ] (9) Other _____

(b) With whom are your presently living? **check all that apply**

[ ] (1) Partner
[ ] (2) Children
[ ] (3) Alone
[ ] (4) Parents
[ ] (5) Brother/Sister
[ ] (6) Friends
[ ] (7) Other relations
[ ] (8) Other _____

EDUCATION STATUS

Do you have difficulties in reading / writing English? No: [ ] Yes: [ ]

Have you completed:

[ ] (1) Primary school
[ ] (2) Some high school
[ ] (3) School certificate
[ ] (4) High school certificate
[ ] (5) College diploma
[ ] (6) University degree
[ ] (7) Postgraduate study
[ ] (8) Other _____

STANDARD DRINKS

In the next sections, there are questions about your drinking and related experiences. Because alcoholic drinks vary a lot in strength it is useful to know how much alcohol is in each common drink. A STANDARD DRINK is one which contains about 10 grams of alcohol (see the enclosed standard drink comparison figure). You can see that common servings of different kinds of alcoholic drinks in fact contain about the same amount of alcohol. Please proceed to answer the rest of the questionnaire.

RECENT ALCOHOL USE HISTORY

1 When was the last time you had a drink? _____ (how many days ago?)

2 What did you drink and how much? _____

3 Where did you drink? _____

4 Did anyone else drink with you? No: [ ] Yes: [ ]

if yes - who: [ ] (01) Friends [ ] (03) Co-workers
[ ] (02) Family [ ] (04) Other _____

5 How much money did you spend on alcohol the last time you drank? $ _____

6 When was the 2nd last time you had an alcoholic drink? _____
(or how many days ago?)

7 What did you drink and how much? _____

8 Where did you drink? _____

9 Did anyone else drink with you? No: [ ] Yes: [ ]

if yes - who: [ ] (01) Friends [ ] (03) Co-workers
[ ] (02) Family [ ] (04) Other _____

10 How much money did you spend on alcohol? $ _____

"Now think about the <u>past six months</u> and tick (✓) or write down the appropriate answer ".

1. How many <u>standard</u> drinks (see standard drink comparison figure) containing alcohol do you usually have when you are drinking?

[ ] 1 or 2 [ ] 3 or 4 [ ] 5or 6 [ ] 7 or 9 [ ] 10 or more

2. Think about the past six months, how often did you have a drink containing alcohol?

Once a month	2-3 days a month	1-2 days a week	3-4 days a week	Nearly Everyday every day

3. What type of drink do you usually have?

Beer Wine Sherry/Port Spirits (Other) _____

4. How often would you have MORE than five standard drinks a day?

[ ] ( ) Never
[ ] ( ) Less than once a month
[ ] ( ) About once a month
[ ] ( ) About once a week
[ ] ( ) Daily or almost daily

5. How often would you have MORE than 10 standard drinks a day?

[ ] ( ) Never
[ ] ( ) Less than once a month
[ ] ( ) About once a month
[ ] ( ) About once a week
[ ] ( ) Daily or almost daily

6. How often would you have MORE than 15 standard drinks a day?

[ ] ( ) Never
[ ] ( ) Less than once a month
[ ] ( ) About once a month
[ ] ( ) About once a week
[ ] ( ) Daily or almost daily

7. In the last six months, what is the <u>longest period</u> of continuous drinking that you have had (include hours of sleep if you began drinking the next morning)?

Total : _____ (hours)

8. How often during the last <u>six months</u> have you needed a drink in the morning to get yourself going?

[ ] ( ) Never
[ ] ( ) Less than once a month
[ ] ( ) About once a month
[ ] ( ) About once a week
[ ] ( ) Daily or almost daily

9. How often during the last <u>six months</u> have you had a feeling of guilt or remorse after drinking?

[ ] ( ) Never
[ ] ( ) Less than once a month
[ ] ( ) About once a month
[ ] ( ) About once a week
[ ] ( ) Daily or almost daily

10. How often during the last <u>six months</u> have you been unable to remember what happened the night before because you had been drinking?

[ ] ( ) Never
[ ] ( ) Less than once a month
[ ] ( ) About once a month
[ ] ( ) About once a week
[ ] ( ) Daily or almost daily

11. When did you first think you may have a problem with alcohol?

Rough date: _____ month 19 _____ / OR (I don't think I have a problem)

12. When did your partner, family or friend first become concerned about your drinking?

Rough date: _____ month 19 _____ / OR (Not applicable)

13. Have you attempted to change your drinking (i.e. give up or cut down) without anyone's help?

[ ] (1) No
[ ] (2) Yes, but not in the last six months
[ ] (3) Yes, during the last six months (please specify) _____

---

14. Have you seen a counsellor or a doctor (or any other health professional) regarding your drinking?

[ ] (1) No
[ ] (2) Yes, but not in the last six months
[ ] (3) Yes, during the last six months (please specify) _____

---

15. Have you been to an Alcoholics Anonymous (AA) group or any other self-help group?

[ ] (1) No
[ ] (2) Yes, but not in the last six months
[ ] (3) Yes, during the last six months (please specify) _____

---

16. Have you had problems at work (eg. lost time off work, often been late, poor performance) because of your drinking?

[ ] (1) No
[ ] (2) Yes, but not in the last six months
[ ] (3) Yes, during the last six months (please specify) _____

---

17. Have you lost a job, or been fired from work because of your drinking?

[ ] (1) No
[ ] (2) Yes, but not in the last six months
[ ] (3) Yes, during the last six months (please specify) _____

---

18. Have you had problems' in/with relationships (e.g. spouse, family member, friends) because of your drinking?

[ ] (1) No
[ ] (2) Yes, but not in the last six months
[ ] (3) Yes, during the last six months (please specify) _____

_____

19. Have you or someone else been injured as a result of your drinking?

[ ] (1) No
[ ] (2) Yes, but not in the last six months
[ ] (3) Yes, during the last six months (please specify) _____

_____

20. Have you had any trouble with the law because of your drinking (e.g. drink driving, assault, disorderly conduct etc)?

[ ] (1) No
[ ] (2) Yes, but not in the last six months
[ ] (3) Yes, during the last six months (please specify) _____

_____

21. Have you experienced any health problems because of your drinking (e.g. liver disease, stomach disease, heart disease, memory problems etc.)?

[ ] (1) No
[ ] (2) Yes, but not in the last six months
[ ] (3) Yes, during the last six months (please specify) _____

_____

22. Do you have anyone whom your regard as a support person?

NO: _____ YES: _____

If yes, please specify:_____

23. Has anyone been concerned about your drinking or suggested that you give up or cut down?

[ ] (1) No
[ ] (2) Yes, but not in the last six months
[ ] (3) Yes, during the last six months (please specify) _____

_____

24. Is there anyone else in your family who drinks heavily?

NO: _____ YES: _____

Please specify _____

25. Is there anyone else in your family who is seeing a mental health professional?

NO: _____ YES: _____

Please specify_____

26. At the place you are currently living does anyone else drink heavily?

NO: _____ YES: _____

Please specify_____

27. Have you seen a mental health professional for reasons other than drinking?

[ ] (1) No
[ ] (2) Yes, but not in the last six months
[ ] (3) Yes, during the last six months (please specify) _____

_____

28. Have you suffered from severe anxiety or depression?

[ ] (1) No
[ ] (2) Yes, but not in the last six months
[ ] (3) Yes, during the last six months (please specify) _____

_____

29. Do you sometimes feel like ending your life?

[ ] (1) No
[ ] (2) Yes, but not in the last six months
[ ] (3) Yes, during the last six months (please specify) _____

_____

30. Have you hurt yourself intentionally? (e.g. attempted to commit suicide)

[ ] (1) No
[ ] (2) Yes, but not in the last six months
[ ] (3) Yes, during the last six months (please specify) _____

_____

31. Has any member of your family or someone else close to you attempted to or committed suicide?

[ ] (1) No
[ ] (2) Yes
[ ] (3) If yes, please specify: _____

_____

ICQ

THINK ABOUT THE PAST SIX MONTHS: READ THE FOLLOWING STATEMENTS AND TICK OR CIRCLE THE APPROPRIATE ANSWERS.

1 After just having two or three drinks, I felt like having a few more

[ ] Never or almost never [ ] Often [ ] Sometimes [ ] Nearly always

2 After just having two or three drinks, I could stop drinking if I had other things to do.

[ ] Never or almost never [ ] Often [ ] Sometimes [ ] Nearly always

3 When I started drinking alcohol I found it hard to stop until I was fairly drunk.

[ ] Never or almost never [ ] Often [ ] Sometimes [ ] Nearly always

4 When I went drinking I planned to have at least six drinks.

[ ] Never or almost never [ ] Often [ ] Sometimes [ ] Nearly always

5 When I went drinking I planned to have no more than two or three drinks.

[ ] Never or almost never [ ] Often [ ] Sometimes [ ] Nearly always

SADQ-C

THINK ABOUT THE PAST SIX MONTHS:

1 The day after drinking I woke up feeling sweaty.

[ ] Never or almost never [ ] Often [ ] Sometimes [ ] Nearly always

2 The day after drinking alcohol, my hands shook first thing in the morning.

[ ] Never or almost never [ ] Often [ ] Sometimes [ ] Nearly always

3 The day after drinking alcohol, my whole body shook violently first thing in the

[ ] Never or almost never [ ] Often [ ] Sometimes [ ] Nearly always

4 The day after drinking alcohol, I woke up absolutely drenched in sweat.

[ ] Never or almost never [ ] Often [ ] Sometimes [ ] Nearly always

5 The day after drinking alcohol, I dreaded waking up in the morning.

[ ] Never or almost never [ ] Often [ ] Sometimes [ ] Nearly always

6 The day after drinking alcohol, I was frightened of meeting people first thing in the morning.

[ ] Never or almost never [ ] Often [ ] Sometimes [ ] Nearly always

7 The day after drinking alcohol, I felt at the edge of despair when I awoke.

[ ] Never or almost never [ ] Often [ ] Sometimes [ ] Nearly always

8 The day after drinking alcohol, I felt very frightened when I awoke.

[ ] Never or almost never [ ] Often [ ] Sometimes [ ] Nearly always

9 The day after drinking alcohol, I liked to have an alcoholic drink in the morning.

[ ] Never or almost never [ ] Often [ ] Sometimes [ ] Nearly always

10 The day after drinking alcohol, in the morning I always gulped my first few alcoholic drinks down as quickly as possible.

[ ] Never or almost never [ ] Often [ ] Sometimes [ ] Nearly always

11 The day after drinking alcohol, I drank more alcohol in the morning to get rid of the shakes.

[ ] Never or almost never [ ] Often [ ] Sometimes [ ] Nearly always

12 The day after drinking alcohol, I had a very strong craving for an alcoholic drink when I awoke?

[ ] Never or almost never [ ] Often [ ] Sometimes [ ] Nearly always

13 I drank more than a quarter of a bottle of spirits in a day (OR 1 bottle of wine OR 7 middies of beer).

[ ] Never or almost never [ ] Often [ ] Sometimes [ ] Nearly always

14 I drank more than half a bottle of spirits in a day (OR 2 bottles of wine OR 15 middies of beer).

[ ] Never or almost never [ ] Often [ ] Sometimes [ ] Nearly always

15 I drank more than one bottle of spirits in a day (OR 4 bottles of wine OR 30 middies of beer).

[ ] Never or almost never [ ] Often [ ] Sometimes [ ] Nearly always

16 I drank more than two bottles of spirits in a day (OR 8 bottles of wine or 60 middies of beer).

[ ] Never or almost never [ ] Often [ ] Sometimes [ ] Nearly always

NOW IMAGINE THE FOLLOWING SITUATION:

a) You have hardly drunk any alcohol for a few weeks.
b) You then drink very heavily for two days.
c) How would you feel the morning after two days of heavy drinking?

17 I would start to sweat:

[ ] Not at all [ ] Slightly [ ] Moderately [ ] Quite a lot

18 My hands would shake:

[ ] Not at all [ ] Slightly [ ] Moderately [ ] Quite a lot

19 My body would shake:

[ ] Not at all [ ] Slightly [ ] Moderately [ ] Quite a lot

20 I would be craving for a drink.

[ ] Not at all [ ] Slightly [ ] Moderately [ ] Quite a lot

CDSES

Think about the **NEXT 6 months**: Imagine that you are in the following situations. How confident are you that you will NOT DRINK HEAVILY (i.e. more than six standard drinks) in each situation? Circle only one number that best describes your confidence.

1. When you are ANGRY?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%
Not at all confident Moderately confident Very confident

2. When you are DEPRESSED?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%
Not at all confident Moderately confident Very confident

3. When your are PHYSICALLY TIRED?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%
Not at all confident Moderately confident Very confident

4. When you are AT A PARTY WITH FRIENDS?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%
Not at all confident Moderately confident Very confident

5. BEFORE A MEAL?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%
Not at all confident Moderately confident Very confident

6. When you are BORED?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%
Not at all confident Moderately confident Very confident

7. When you are IRRITATED?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%
Not at all confident Moderately confident Very confident

8. When you are NOT RELAXED IN A SOCIAL SITUATION?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

Not at all confident Moderately confident Very confident

9. When you are WATCHING TV (e.g. SPORTS, MOVIES)?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

Not at all confident Moderately confident Very confident

10. When you are WORRIED?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

Not at all confident Moderately confident Very confident

11. When you are in a "SHOUT" SITUATION WITH FRIENDS?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

Not at all confident Moderately confident Very confident

12. When you are HAPPY?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

Not at all confident Moderately confident Very confident

13. When you WANT TO FEEL MORE CONFIDENT?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

Not at all confident Moderately confident Very confident

14. When you are STRESSED?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

Not at all confident Moderately confident Very confident

15. When SOMEONE OFFERS TO BUY YOU FREE DRINKS?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

Not at all confident Moderately confident Very confident

16. How confident are you that you will not have MORE THAN THREE DRINKS on any one time you have a drink?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

Not at all confident Moderately confident Very confident

17. How confident are you that you will not have MORE THAN ONE DRINK on any one time you have a drink?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

Not at all confident Moderately confident Very confident

18. How confident are you that you can you stop yourself from drinking alcohol at least ONE DAY A WEEK?

0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Not at all confident				Moderately confident					Very confident	

19. How confident are you that you can you stop yourself from drinking alcohol at least TWO DAYS A WEEK?

0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Not at all confident				Moderately confident					Very confident	

20. How confident are you that you can you stop yourself from drinking alcohol at least THREE DAYS A WEEK?

0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Not at all confident				Moderately confident					Very confident	

LOT

Respond to each of the following statements by marking one number for each statement. For each statement, indicate whether or not it fits you and your feelings about things, by choosing one of the following answers.

0 = strongly disagree
1 = disagree
2 = neutral
3 = agree
4 = strongly agree

(Mark below, choose a number between 0 to 4)

_____ 1. In uncertain times, I usually expect the best.
_____ 2. It's easy for me to relax.
_____ 3. If something can go wrong for me, it will.
_____ 4. I always look on the bright side of things.
_____ 5. I'm always optimistic about my future.
_____ 6. I enjoy my friends a lot.
_____ 7. It's important for me to keep busy.
_____ 8. I hardly ever expect things to go my way.
_____ 9. Things never work out the way I want them to.
_____ 10. I don't get upset too easily.
_____ 11. I'm a believer in the idea that "every cloud has a silver lining".
_____ 12. I rarely count on good things happening to me.

OE

Given below are 20 statements. There are no correct or wrong answers. Read each statement and then decide if that could happen if you could get your drinking under control. Circle the statement that applies to you. They range from "extremely likely" to "extremely unlikely".

If I could get my drinking under control

1. I would feel better about myself

extremely likely / quite likely / slightly likely / neither / slightly unlikely / quite unlikely / extremely unlikely

2. I would feel less depressed

extremely likely / quite likely / slightly likely / neither / slightly unlikely / quite unlikely / extremely unlikely

3. I would avoid hangovers and blackouts

extremely likely / quite likely / slightly likely / neither / slightly unlikely / quite unlikely / extremely unlikely

4. I would feel more inhibited

extremely likely / quite likely / slightly likely / neither / slightly unlikely / quite unlikely / extremely unlikely

5. I would feel less relaxed (more tense)

extremely likely / quite likely / slightly likely / neither / slightly unlikely / quite unlikely / extremely unlikely

6. I would be more anxious in social situations

extremely likely / quite likely / slightly likely / neither / slightly unlikely / quite unlikely / extremely unlikely

7. I would be less aggressive

extremely likely / quite likely / slightly likely / neither / slightly unlikely / quite unlikely / extremely unlikely

8. I would feel more in control of myself

extremely likely / quite likely / slightly likely / neither / slightly unlikely / quite unlikely / extremely unlikely

9. I would feel less self-confident

extremely likely / quite likely / slightly likely / neither / slightly unlikely / quite unlikely / extremely unlikely

10. I would be less talkative

extremely likely / quite likely / slightly likely / neither / slightly unlikely / quite unlikely / extremely unlikely

If I could get my drinking under control

11. I would remember things better

extremely likely / quite likely / slightly likely / neither / slightly unlikely / quite unlikely / extremely unlikely

12. I would feel discomfort in my stomach

extremely likely / quite likely / slightly likely / neither / slightly unlikely / quite unlikely / extremely unlikely

13. I would think more clearly

extremely likely / quite likely / slightly likely / neither / slightly unlikely / quite unlikely / extremely unlikely

14. I would feel less sociable

extremely likely / quite likely / slightly likely / neither / slightly unlikely / quite unlikely / extremely unlikely

15. I would argue less

extremely likely / quite likely / slightly likely / neither / slightly unlikely / quite unlikely / extremely unlikely

16. I would enjoy myself less

extremely likely / quite likely / slightly likely / neither / slightly unlikely / quite unlikely / extremely unlikely

17. I would become more irritable

extremely likely / quite likely / slightly likely / neither / slightly unlikely / quite unlikely / extremely unlikely

18. I would worry more about things

extremely likely / quite likely / slightly likely / neither / slightly unlikely / quite unlikely / extremely unlikely

19. I would express my feelings more

extremely likely / quite likely / slightly likely / neither / slightly unlikely / quite unlikely / extremely unlikely

20. I would enjoy sex more

extremely likely / quite likely / slightly likely / neither / slightly unlikely / quite unlikely / extremely unlikely

Please complete the following section.

Some of the <u>advantages</u> if I cut down / reduce my drinking are:	**Some of the <u>disadvantages</u> if I cut down / reduce my drinking are:**
1	**1**
2	**2**
3	**3**
4	**4**
5	**5**
6	**6**
7	**7**
8	**8**
9	**9**
10	**10**

APPENDIX 2

Samples of the treatment package

*

CONTROLLED DRINKING BY CORRESPONDENCE Rx 1- CBT+SCE

Dear _____ , thank you for returning the assessment forms. This personal report was prepared for you based on your responses.

USUAL QUANTITY OF ALCOHOL CONSUMPTION

From your responses we noted that:

Your daily consumption pattern is: _____ drinks per drinking day.
Your weekly consumption is:_____ drinks per week.

This is **MORE** than the recommended levels of safe drinking.

Health experts recommend that men drink no more than 4 standard drinks on any one drinking occasion - no more than 4 days per week; and women drink no more than 2 standard drinks on any one drinking occasion - no more than 4 days per week. That is, both men and women **MUST** have at least 2 to 3 alcohol free days per week.

NEED FOR ALCOHOL FREE DAYS

From your responses we noted that you drink:

- Every day of the week
- 6 days a week
- 5 days a week
- 4 days or less

You **MUST** have at least 2 to 3 alcohol free days per week. This is important for the following reasons:

- Avoiding daily drinking reduces the overall consumption.
- Avoiding daily drinking reduces the build up of tolerance to alcohol.

In other words, you will not have a high tolerance for alcohol, and even small amounts of alcohol can make you "feel good".

BINGE DRINKING

We also noted that you drink excessive amounts (binge drinking) on certain days. From your records you drink at least

_____ drinks	
Almost every day	Once a week
Once a fortnight	Once a month

Binge drinking, i.e. drinking more than 6 standard drinks per occasion can cause serious health risks including impairment of brain functions.

COMPARISON CHARTS

We have enclosed a **comparison chart** indicating ***How Much You Drink*** **and** ***How Often You Drink*** **compared to other adult Australians**. This is based on the information you have provided about how much you drink and how often you drink.

HOW MUCH ALCOHOL YOU HAVE DRUNK IN THE PAST 6 MONTHS AND HOW MUCH DID IT COST YOU?

Based on the information you provided us you consumed:

_____ drinks in the past 6 months

Let us assume you spend a minimum of $2 per standard drink (consumed at home), then you spent $ _____ on alcohol during the past 6 months.

If you drink in a pub or hotel, the cost of alcohol is even more. If we assume the cost of a standard drink in a pub or hotel is $3, then regular hotel / pub drinkers would have spent at least:

$_____ on alcohol during the past 6 months

ALCOHOL = EMPTY CALORIES

Alcohol contains empty calories. That is, they do not contain nutritional value. If we calculate one standard drink to have an average of 100 calories, then you obtain:

_____ calories per **day** from alcohol _____ calories per **week** from alcohol

Note that these calories are in addition to the calories acquired from eating food.

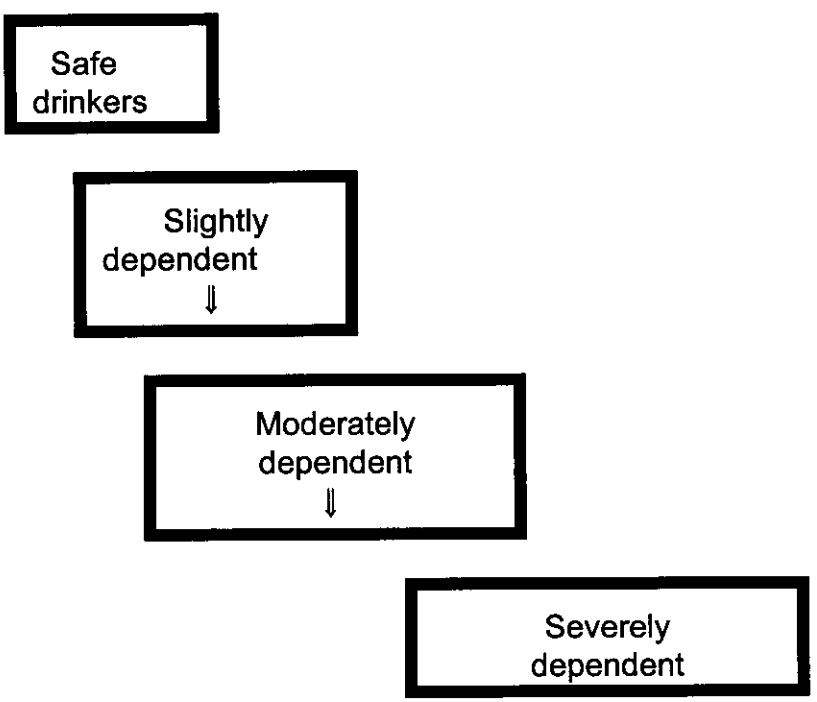
SEVERITY OF ALCOHOL DEPENDENCE

In the past, people with drinking problems were called alcoholics. We do **NOT** recommend such terms. Instead, we view severe problem drinking as being dependent on alcohol. And problem drinkers may be dependent on alcohol on varying degrees. For e.g. some may be slightly dependent on alcohol, some may be moderately dependent, and some severely dependent (see dependency status chart).

DEPENDENCY STATUS CHART

From your responses we believe that you are:

1. Slightly dependent on alcohol
2. Moderately dependent on alcohol
3. Severely dependent on alcohol



You must move away from the dependence category to the safe drinkers category.

CONFIDENCE NOT TO DRINK HEAVILY IN A "DIFFICULT" SITUATION

There is good evidence to suggest that those who are ***CONFIDENT*** face different, difficult problem situations without drinking excessively.

For e.g. if someone is not at all confident that they can drink two drinks or less when they are stressed, may actually end up drinking a lot more. Similarly if someone is not confident that they can drink two drinks or less when they are in a "shout situation", they may actually drink heaps more.

This type of confidence is called ***SELF - EFFICACY***.

From your responses we noted that you are not very confident in your abilities to drink less when you are (the ticked items are taken from your responses) -

- ANGRY
- DEPRESSED
- PHYSICALLY TIRED
- AT A PARTY WITH FRIENDS
- DRINKING BEFORE/WITH A MEAL
- BORED
- IRRITATED
- NOT RELAXED IN A SOCIAL SITUATION
- WATCHING T.V. (EG: SPORTS, MOVIES)
- WORRIED
- IN A SHOUT SITUATION WITH FRIENDS
- HAPPY
- WANT TO FEEL MORE CONFIDENT
- STRESSED
- SOMEONE OFFERS TO BUY YOU FREE DRINKS

Make sure that you DO NOT drink in these situations or mood states

You are also NOT confident in your ability to have:

- less than 3 drinks on any one time
- less than 1 drink on any one time

We also noticed that you do not think that you can stop yourself from drinking at least:

- 1 day a week
- 2 days a week
- 3 days a week

Plan to have at least _____ day(s) alcohol free per week. As you become more confident, you may attempt to have at least _____ day(s) per week alcohol free.

Benefits of cutting down

Enclosed is a copy of the form you completed indicating what benefits you expect if you cut down your drinking. Go through this list whenever you feel like your motivation is wavering.

In the next section we would like to introduce you to a new exercise (self- recording), and also provide you with some brief information about the harmful effects of alcohol.

SELF - RECORDING

Self-recording is aimed at keeping track of the number of drinks you consume in a week and also monitor the changes in your drinking style. By observing your drinking behaviour you would be capable of planning in advance:

- what you should drink,
- when you should drink,
- where you should drink,
- with whom should you drink (and with whom you should *not* drink), and
- you would also be able to ask yourself if the "reasons" you give yourself to drink excessively are valid one's

For this purpose we have included ten ***Drinking Record Cards.*** The card also contains some tips to **CONTROL YOUR DRINKING**. (We have enclosed a **Standard Drink Conversion Chart**, and an example of a completed self recording card).

Instructions to complete this card:

1. Select your goals. Choose a goal that is easy for you to achieve. Do not select a goal that is too easy or very difficult.
2. Select the number of days you choose to drink in one week. Try not to drink 7 days a week. If you are not confident of achieving 3 alcohol free days, aim for at least 1 alcohol free day.
3. Select the number of drinks you will have on any one drinking day. Aim for a reduction that you are confident of achieving.
4. Plan not to have more than a set amount of drinks per week. This should be considerably less than your usual pattern. See the feedback information we gave you and decide the quantity and frequency of your drinking.
5. Now go over each item from the "Tips to Control Drinking". These are fairly commonsense tips and we would like you to follow these ideas whenever you drink.

6. Turn the card and look at column WEEK 1.
7. Write down the week beginning and the date's and the total consumption per day as shown in the sample card. Use the standard drink conversion chart that we have enclosed to calculate the total number of standard drinks you consume.
8. Fill the cards **promptly** on the same day that you had something to drink.
9. If you did not drink any alcohol then leave that column blank.

REMEMBER THE SAFE DRINKING LIMITS

*The safe drinking levels for **MEN** are:*

- Do not drink more than 3 to 4 standard drinks per drinking occasion (per day/24 hours).
- Do not save the drinks and drink them all in one occasion.
- Have at least 2 to 3 alcohol free days per week.
- See "Standard Drink Conversion's" information sheet to calculate the number of standard drinks you consume.

*The safe drinking levels for **WOMEN** are:*

- Do not drink more than 2 to 3 standard drinks per drinking occasion (per day/24 hours).
- Do not save the drinks and drink them all in one occasion.
- Have at least 2 to 3 alcohol free days per week.
- See "Standard Drink Conversion's" information sheet to calculate the number of standard drinks you consume.

SAMPLE MONITORING CARD (this is an example only)

EXAMPLE: Goal 4 drinking days per week

WEEK 1: / /

	1	2	3	4	5	6	7
15+							
14							
13							
12							
11							
10							
9							
8							
7							
6							
5							
4							
3							
2							
1							
	day	day	day	day	day	day	day
	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7

WEEK 2: / /

	1	2	3	4	5	6	7
15							
14							
13							
12							
11							
10							
9							
8							
7							
6							
5							
4							
3							
2							
1							
	day	day	day	day	day	day	day
	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7

Ways to Control Drinking: (example)

- Workout beforehand how much I will drink
- Think about it before I have a drink.
- Make it harder for myself to drink a lot.
- Drink with people who control their drinking
- Spin out drinks by waiting between sips.
- Spin out drinks by taking small sips.
- Start with a non-alcoholic drink.
- Make every second drink non-alcoholic.
- Change to drinks with less alcohol.
- Watch cocktails and punches.
- Buy my own drinks.
- Don't let others refill my glass.

Drinking Record: (example)

My goals are:

I will drink *4* days a week.

I will not drink more than *3* drinks on any one day.

I will not have more than *12* drinks a week.

My main reason for cutting down is:

Health reasons, Self - Esteem,

I want to prove I can do it, etc....

In the next section we would like to discuss **High-Risk Situations** and what you can do to avoid drinking heavily in these situations.

HIGH-RISK SITUATIONS

High risk situations are situations that you have difficulty in controlling your drinking.

They can be:

- certain *places* where you tend to drink too much,
- certain *times* in the day or *days* of the week when you drink more than you should,
- certain *activities* that end up as heavy drinking sessions,
- certain *feelings* or *thoughts* that lead you to drink heavily.
- certain *people* with whom you drink a lot.

High risk situations are likely to lead you to have a *lapse* in your attempt to change your drinking behaviour.

People often make the mistake of giving up when they have had a lapse. However you should see a lapse as a mistake or slip up. It does not mean that you have failed. When you are learning a new skill, you may make a few mistakes, but keep on trying and you will get better.

High-Risk Situations Require Special Attention.

When faced with an **expected high-risk situation** you are able to plan ahead. You know exactly when the situation will occur and can make sure you are prepared. However, high risk situations may happen when you least expect them. Such situations may have been a problem for you in the past. You can however learn to prepare for the unexpected, by having a number of general strategies that can help you to stay in control in any situation.

Research has shown that many people say that anger, feeling blue, loneliness, boredom, irritation, anxiety or stress led them to heavy drinking. The other times are social pressure to drink, e.g. party with friends, in a shout situation or when someone offered them free drinks. Do these sound familiar

to you?

Think about the situations that may be risky for you.

Do you think these situations will happen again? How hard will it be for you to drink less or not drink at all the next time they happen?

HIGH-RISK SITUATIONS AND PROBLEM SOLVING

To deal with a known high-risk situation you need to plan ahead. One way to keep in control is to stop the high-risk situation from happening.

COPING WITH SOCIAL SITUATIONS

Social situations with friends are enjoyable and it becomes all too easy to forget your goal and drink too much, especially if everyone else is drinking. It is a long night, there's a party atmosphere and everyone seems to be drinking heavily.

As social situations are usually planned in advance, you can plan ahead to control your drinking. You know in advance when the situation will occur, who will be there, what they are like and the likely length of these proceedings.

To avoid drinking heavily plan some strategies in advance. Use the **PROBLEM SOLVING STEPS** (which is enclosed) we have given you to use in high-risk situations. Have a number of different strategies you can fall back on. Don't just rely on one.

Some strategies that other people have found to be helpful in social situations are:

Going later - leaving earlier

This way there is less time to drink alcohol. Have a set time you will go there and a set time you will leave. Stick to these times. Avoid staying at parties or social functions that you know will drag on. Usually these events end up in heavy drinking.

Take your own drinks

Take your own low alcohol drinks or soft drinks. Don't expect that they will be provided by the host. Take enough so that you don't run out.

Align with moderate or light drinkers

Stay with those people who are light or moderate drinkers. Avoid being with heavy drinkers.

Drive yourself to and from the party

If your spouse / partner or some other person usually drives you to social functions, offer to drive there and back yourself. Once you get there, let every one know that you're driving. This way they won't continually keep at you to have a drink.

Double booking

If you know you usually stay far too long at a particular place and end up drinking heavily, double book. Have something else already planned that allows you to leave early. Plan an alternate activity that doesn't end up in you drinking heavily.

Tell significant others about your lifestyle changes

Let friends who are important to you know that you are cutting down. You

are only changing what and how much you drink, not your personality. Remind them of this. They may forget your goals and encourage you to drink, while others may test you out to see how long you can last. You could end up being a role model for them, even if there is some criticism and resistance at first. You don't need to tell them to cut down, your example may be good enough.

"Drink watch" technique

Plan not to drink at all and watch how those around you drink. See with a clear head what drinking does to people. Choose a variety of heavy and light drinkers. Take notice of how much they drink and how their behaviour changes as time passes. What do the light drinkers do that stops them from drinking heavily?

You may notice that the heavy drinkers show marked differences in their behaviour when compared to moderate drinkers. You may realise things that you were unaware of before. For example, you may discover that someone you had previously thought to be a heavy drinker isn't, you were just too drunk in the past to realise it. You may see that heavy drinkers behave in a way you would rather avoid.

Positive thoughts or self-talk

In social situations have a positive attitude to cutting down or controlling how much you drink. Make a drinking decision. Giving yourself instructions may help, e.g. "I can be around other drinkers - no problem." "I don't want to drink heavily." "I am a successful moderate drinker."

Avoid the situation

If you have little confidence that you will be able to control your drinking in some social situations, avoid going. Come up with an alternate arrangement that does not end up with you drinking heavily. With more practice and increased confidence you might be able to cope better in the future.

SOCIAL GATHERINGS OR PARTIES AT YOUR PLACE.

If this is a problem situation for you, make sure you invite more light and moderate drinkers than heavy drinkers. Don't have lengthy gatherings if you know you will end up drinking too much. Double booking is a way to make sure a function will end on time. If you find that evening functions tend to drag on, entertain during the day instead. Let people know when the functions will start and when they will finish.

COPING WITH LONELINESS OR WHEN YOU ARE FEELING DOWN.

When you are feeling down, or lonely, you may drink too much. Take part in other activities that take your mind off the situation. Plan ahead. You usually know in advance when you're likely to feel lonely. Organise some activity that you can do at that time.

Distract yourself with activities that will keep your mind busy. Call a friend on the phone or meet someone who is not a heavy drinker. Get out of the situation by visiting friends. If you don't want to go out at night by yourself, and you usually do your housework during the day, do an activity during the day and leave the housework till the evening.

Look at the times that you are on your own as times to do something just for you. Take part in activity groups that you find enjoyable. Start that course that you have been meaning to do. It may be a time that you can relax or exercise. If so, do something that you find enjoyable as well.

If you are feeling down or depressed, and you use alcohol to alleviate these feelings, think again! It has been found that *alcohol actually makes people more depressed*. The most successful way to deal with low mood states is to do something that you find pleasant or that gives you a lift. Break the cycle of loneliness or low mood. Try to engage in many social, educational, and recreational activities.

Think about the activities you have found pleasant in the past. Make a list. Are you still doing them now? If not, renew them. Think of the other things that you have always wanted to do. Can you start doing them now.

Make these pleasant activities a regular thing, not just a one off.

Plan something like this:

- **every day** going for a walk, time for reading, relaxing, exercise, etc.
- **once a week** time for a movie, visiting friends, eating out, game of tennis, etc.
- **once a month** time for a weekend away, a gathering at your place, etc.
- **once a year** plan a holiday

Planning these activities will give you something to look forward to, something to think about when you feel blue.

DRINKING BEFORE OR WITH A MEAL.

If drinking before a meal is a problem situation for you, you should avoid such drinking. Before a meal you usually have an empty stomach. This allows any alcohol that you have to pass more quickly into your system. Also, you usually find that if you drink before a meal your appetite will be reduced. You may end up eating poorly or not eating at all. This behaviour can harm your brain functions.

Having something to eat will slow up the absorption of alcohol and thereby reduce the concentration of alcohol in your system. The alcohol will have less effect in lower concentrations. Instead of having alcoholic drinks during a meal, have non-alcoholic ones.

When you are trying to cope with a problem situation you have to be prepared to try out new coping strategies. They won't work if you are not prepared to give them a go. With each situation that you face, evaluate your attempts to cope in that situation. Keep the problem solving process going. Your successful strategies will become automatic with continued use.

PROBLEM SOLVING FOR HIGH-RISK SITUATIONS SHEET

We want you to start planning for high-risk situations that are likely to occur in the near future. Use the steps below to fill out the **High-Risk Situation Sheet** that we have enclosed for you.

THINK "ALOUD" - (ROLE PLAY IN YOUR MIND).

1. Decide what the situation will be.

When will it happen?
Who will you be with?
What time and day will it happen?

What has usually happened?
What are your usual thoughts and feelings in this situation?

2. List all the strategies you could try?

Write down everything you could try to stop you from having too much to drink -- don't throw out any ideas yet.

3. Think about each one.

What are its good points?
Are there any disadvantages?
Can you make it into an even better idea?
Have you used a strategy before and it was successful?

4. Decided the best strategies you will try.

Decide which strategies will be best for you?
Circle the one's that you will try.
Write them down on your drinking record card to serve as prompts.

5. Rehearse the strategies you have chosen.

Practice using them in your head.

6. Use them when the situation occurs.

7. Evaluate them after the situation has occurred.

Which ones worked?
Which ones didn't?
How can you improve them?
Go through the process again if necessary, making use of your new experiences.

Problem solving steps is a skill that can be used for **all** problem situations. What we want you to do is identify what *you* feel are your two biggest high-risk situations. That is, the situations that will most likely occur again and will most likely lead *you* to drink more.

On the next page there are spaces provided for you to follow the steps as set out by the ***Problem Solving for Two High-Risk Situations***.

For example:

- where is it likely to happen,
- who are you usually with,
- the day and time it usually is,

- what has usually happened, and,
- what are your thoughts and feelings in this situation.

After you've identified two possible high-risk situations, go through the Problem Solving Steps Sheet again.

HIGH-RISK SITUATION SHEET

High-risk situation 1: ***A high risk-situation that may occur is:***

When I am at _____

I am usually with _____*/ I am alone.*

It is usually ___ day/ any day between __ am/pm and __ am/pm.

What usually has happened is _____
_____

Usually my thoughts/ feelings at the time are _____
_____

The things that I will try when this situation occurs again are:
_____
_____
_____

High-risk situation 2: ***A high risk-situation that may occur is:***

When I am at _____

I am usually with _____*/ I am alone.*

It is usually ___ day/ any day between __ am/pm and __ am/pm.

What usually has happened is _____
_____

Usually my thoughts/ feelings at the time are _____
_____

The things that I will try when this situation occurs again are:
_____
_____
_____

In the following section we have included some brief material about the effects of alcohol.

THE EFFECTS OF ALCOHOL

WHAT IS ALCOHOL?

Alcohol is a powerful drug. It is a depressant drug and not a stimulant as many people think. It actually slows down the activity in parts of the brain and the nervous system.

EFFECTS OF ALCOHOL

The effects of alcohol will vary from person to person. They depend on:

- how much and how quickly the alcohol is consumed
- the person's body build: size and weight
- how good a person's health is
- the occasion in which alcohol is consumed
- whether the alcohol is consumed with other drugs
- age and gender

IMMEDIATE EFFECTS

The immediate effects of alcohol also vary from person to person. As you drink more and more alcohol in a single session, you may experience more and more of the following immediate effects:

- feelings of relaxation
- vomiting
- feelings of well being
- flushing; dizziness
- blurred vision
- uncoordinated movements
- slurred speech
- unconsciousness
- loss of inhibitions
- slow reactions
- unclear judgement

LONG TERM EFFECTS

Anyone who drinks a lot of alcohol (i.e. six standard drinks or more), regularly, over a period of time, will probably experience some physical, neuropsychological, emotional, and social problems.

Damage to some of the body organs can be permanent. Long term heavy drinking often results in:

- memory loss; confused thinking
- stomach inflammations

- heart and blood disorders
- frequent infections
- depression
- skin problems
- liver damage
- brain damage
- damage to reproductive organs
- relationship problems
- legal problems
- financial difficulties
- poor work performance

Binge drinking (drinking heavily over a few hours or drinking continuously over a number of days) is harmful. It increases health risks and can put people in dangerous and risky situations. By increasing false confidence and reducing their inhibitions, people will take risks they would not normally take. At the same time, heavy drinking reduces their ability to think clearly and act in an appropriate way. Judgement and decision making is easily affected.

ALCOHOL AND DRIVING

Alcohol is involved in around one third of all road traffic deaths. A person's ability to drive a motor vehicle or ride a motor cycle is affected by alcohol. In general, the higher a person's blood alcohol concentration (BAC), the greater the effect on a driver's or the rider's skills. Blood alcohol concentration (BAC) is a measure of the amount of alcohol in a person's blood.

TOLERANCE AND DEPENDENCE

Tolerance to alcohol means that a person needs increasing quantities of alcohol to achieve the same effects as they did before with smaller amounts. Dependence on alcohol means that alcohol becomes central to a person's thoughts, emotions and activities. A dependent person finds it very difficult to stop drinking and may crave for alcohol when trying to stop. Withdrawal symptoms (e.g. feeling anxious, sweating, tremors, vomiting, convulsions, hallucinations, etc) occur when a **physically dependent person** stops drinking.

Not all people who drink are physically dependent on alcohol, but if you are concerned about or experience these symptoms please contact us right away.

However, if one regularly drinks large quantities of alcohol, they can become physically dependent on alcohol.

MIXING ALCOHOL WITH OTHER DRUGS

Combining alcohol with any other drugs (including over the counter or

prescribed medications) can be dangerous or cause discomfort. Mixing alcohol with drugs which depress the body's systems (e.g. tranquillisers, sleeping pills, marijuana) can increase loss of judgement and coordination and even cause breathing failure.

ALCOHOL AND PREGNANCY

Regular drinking of any amount of alcohol during pregnancy can damage the health of both the mother and the baby. Heavy drinking can lead to miscarriage or the baby being born with foetal alcohol syndrome - slow growth patterns before and after birth, and mental disabilities. Doctors now strongly recommend that pregnant women or women wanting to become pregnant should not drink at all.

We will send you some more information in 2 weeks.

CONTROLLED DRINKING BY CORRESPONDENCE
Rx 2 - CBT+SCE

Dear_____,

In the last mailing we provided some information about self-recording, identifying high-risk situations, and problem solving.

In this mailing we have enclosed some new information about
(1) alcohol-related cues / triggers and their role in maintaining heavy drinking,
(2) how cues can be weakened, and
(3) how to implement a new procedure to assist you to manage the need to drink more and more.

Also enclosed is information how to estimate blood alcohol concentration levels and the physiological / cognitive effects associated with different blood alcohol concentration levels.

Alcohol-related cues
There are many cues or triggers that tempt people to drink / or drink more. These may include: people, places, situations, events, and certain mood states. For example, some people may drink excessively in the company of some of their friends. Some people may drink excessively when they are in a particular pub / place. Some people may drink excessively during a BBQ. Some people may drink excessively when they feel down or blue. More importantly, having the first one or two drinks can also serve as a very powerful trigger to drink more. This is referred to as "priming doses" - that further increase the desire to drink more and more. Many people state that once they have had one or two drinks they feel that they need to have more. This is referred to as an "impairment in controlling intake".

However, we now know that these cues or triggers can be weakened. Once these cues or triggers are weakened, then the individual will not feel the need to continue to drink excessively.

How to weaken alcohol-related cues?
The most successful way to weaken a cue or a trigger is not to give in. That

is, once you have had two or three drinks, **STOP.** You might initially expect some "cravings" or "excessive desires" to continue drinking. You might also think that you must continue to drink, otherwise the cravings will not go. You might also feel uncomfortable at what you are experiencing.

*But research has shown that by **NOT** continuing to drink, the strength of these "cravings" or "desires to drink further" actually come down and down!*

In other words, by preventing further drinking, you can "extinguish" the desires to drink further. There are probably several examples that you can think of where you "simply did not give in", and that resulted in reducing or totally eliminating some unwanted behaviours (e.g. not rewarding a child when he or she is throwing a temper tantrum).

Personal High-risk Cues

Think about some of your personal high-risk cues / triggers that prompted you to drink heavily in the past 12 months. We have enclosed a card for you to write down all cues / triggers that prompted you to drink excessively.

We are also enclosing a card for you to write down all potential cues / triggers that you expect to occur in the next twelve months. We would also like you to rate (1) how tempted you will be to drink more than 6 standard drinks in these situations, and (2) how confident you are that you will drink less than six standard drinks.

A New Procedure

Preventing Further Drinking After Consuming Some Alcohol.

We would like to introduce you to a new exercise. This is called "cue-exposure and response prevention". The aim is to practice safe drinking, while you are facing a series of tricky situations or problematic alcohol-related cues (e.g. sight, smell, people, places, taste, mood states).

Based on your responses on the cue cards you completed, you should now have a good idea where you are having difficulties.

We would like you to read carefully the next set of exercises and do them as we suggest. Remember, that you are the therapist in charge of this exercise.

Step 1:

* Choose a good day to start this practice. Choose a day that you feel comfortable. Choose a day that you do not have any excessive pressure to drink / drink a lot. If your home is a "safe" place, commence this exercise at home. Or try it in a place you think you will not drink a lot. If you have a friend or a partner who drinks less and is concerned about your drinking, go through this exercise with them and see if they are interested in participating in this exercise with you. If you do not want anyone to be part of this practice, that's fine. You can start and continue on your own. Remember, you are in charge.

* First get / prepare your favourite drink (e.g. beer / wine).Have two standard drinks (see the standard drink conversion chart) in 20-minutes. Use a watch / clock to time yourself, don't guess.

* After you have finished the 2 standard drinks, open / get the 3rd drink, and leave it in front of you. Do **not** drink the 3rd drink. You might be tempted a lot, but do not drink it. This is important for you to learn to stop after having two drinks.

Step 2:

* With the 3rd drink in front of you, do the following:
- Look at the drink for 3 minutes. Don't let your mind wander away. Focus on the drink, your thoughts, your desire to drink /urges. Do not think of something else.
- After 3 minutes, just wait for a minute.
- Now hold the glass / can in your hand for 3 minutes. Again focus as above.
- After 3 minutes, just wait for a minute.
- Now hold the glass / can near your mouth, and continue to sniff regularly for 3 minutes. Again, focus on the task.
- After 3 minutes, wait for 5-minutes.

(***NOTE***: Because you have drunk 2 standard drinks (priming doses), and have a 3rd one in front of you, you may start feeling the need / urge to drink more. You will notice some bodily sensations. Given your gender and weight, you may start to feel some of the things mentioned in the information sheet how to estimate blood alcohol concentration levels and the physiological / cognitive effects associated with different blood alcohol concentration levels. Once again, remember, it is CRUCIAL not to give in. Remember what you are going to achieve by this practice - you raise your desires to drink, but by not giving in and having that extra drink, your desire / urges will come down. That is, you are extinguishing your desire. This in turn will give you the confidence to stop drinking after having 2 drinks in

other problematic situations).

Step 3:
* After 5-minutes, repeat the entire process once again.
- With the 3rd drink in front of you, do the following:
- Look at the drink for 3 minutes, don't let your mind wander away. Focus on the drink, your thoughts, your desire to drink /urges. Do not think of something else.
- After 3 minutes, just wait for a minute.
- Now hold the glass / can in your hand for 3 minutes. Again focus.
- After 3 minutes, just wait for a minute.
- Now hold the glass / can near your mouth, and continue to sniff regularly for 3 minutes. Again, focus on the task.
- After 3 minutes - pour the 3rd drink in the sink. Do not drink it. Do not think it is a waste of money. Remember, your original goal - you wanted to learn to overcome a bad habit - and this is a start. Do not drink anymore this day.

Step 4:
- After you have done this, spend 10 minutes thinking about the experience.
- What have you achieved? Perhaps for the first time in your life, you have forced yourself to stop after 2 drinks.
- You may have felt a bit strange initially. Your urge may have gone up a bit. You should also start noticing that your urge comes down with time. Most people find that the urge to drink comes down in about 20-minutes. You should also note that not giving in to your urges is not an overwhelming experience. Think of it as a new experience - and not as a bad experience.

Step 5:
- Plan to repeat this exercise at least 3 times a week. Choose the days you can do this exercise. Mark it your diary or calender.

Step 6:
- Everyday you have done this exercise, tick it off in your diary / calender, This is important to make sure you do not forget to practice.

Step 7:
You will find a scale enclosed in this package. It is marked "UE&RP", and has some questions for you to answer.
Space is provided at the end of this scale for you to comment or say something about your experience in doing this exercise.
Please complete this scale and mail it back in the self addressed and stamped envelope. Please do it straight away. If you have any questions or wish to discuss about this exercise, please call (phone_____).

(Sample Cue Card) *Cues Card (past 12-months)*

What are some of the cues / triggers that prompted you to drink / drink excessively in the **past 12-months?** List them below. Remember, cues include: People, Places, Situations, Events, Mood States, etc.

People	
Places	
Events	
Situations	
Moods	

(Sample Card) Cues Card (next 12-months)

Now think of some potential cues / triggers that might occur frequently in the **next 12-months**. Write them below.

We would also like you to mark how **tempted** you will be to drink more than 6 standard drinks when you face these cues. For example, mark "0" if you think you will "not at all be tempted", to "100" if you think you will be "extremely tempted". We would also like you to mark how **confident** you will be to drink less than 6 standard drinks when you face these cues. For example, mark "0" if you think you will "not at all be confident", to "100" if you think you will be "extremely confident".

	Temptation (0% to100%)	**Confidence (0% to100%)**
People_____		
Places_____		
Events_____		
Situations_____		
Moods_____		

(An additional Next 12 months Cues Card is enclosed for your future use).

UE & RP

1. If you are a male, how many standard drinks of priming doses should you drink?_____
2. If you are a female, how many standard drinks of priming doses should you drink?_____
3. In how many minutes should you drink your priming doses?_____
4. How do you prepare to drink the priming doses?

_____

_____

_____

5. Where would you commence the practice sessions?

_____

_____

6. If applicable, who is going to be your co-participant?

_____

7. What would you do after consuming your priming doses?

_____

_____

8. How long would you need to hold and smell the drink following the priming doses?_____
9. If you have the urge to drink the "extra" drink, what should you do?

_____

_____

10. What will you be focussing on when you have the extra drink?

_____

_____

_____

11. When will you end the session?

_____

_____

12. When will you have the next session and where will it be planned?

_____

_____

In the next section, we have also included some additional information how to control your drinking.

GOAL SETTING AND SELF-MONITORING

When you are planning to achieve something and have a goal in mind, it is important to monitor your progress with regard to this goal. If you are not achieving your goal you will then know that it is necessary to change your plan of action and take different steps to ensure that you reach your goal. In cutting down how much you drink, it is also necessary to have a goal in mind.

This goal needs to be one that will not cause you any of the problems discussed in The Effects of Alcohol. We suggest that you keep your drinking to:

No more than 4 days a week

This will ensure that you will not develop a tolerance to alcohol as your body gets a break from alcohol for at least 3 days a week. On each day that you do drink you should keep your drinking to the following recommendations.

For men: 3-4 standard drinks on a drinking day
(12-16 standard drinks a week)

For women: 2-3 standard drinks on a drinking day
(8-12 standard drinks a week)

NOTE:

It is important that you do not add up your drinks and drink them all in one day.

DRINKING GOALS
We would like you to write your goals down here and also on your Drinking Record Card which we have enclosed.

I will drink _____ days a week
I will drink not have more than _____ drinks on any one day
I will not have more than _____ drinks a week

IMPORTANT:
If ever you have *more* than your daily goal, don't feel that you have failed. See it as a *learning experience*. Each time you exceed your goal make the next day **an alcohol free day**. This will then prevent you from developing tolerance to alcohol. It will also give you time to plan ahead for the next time.

WAYS TO CONTROL YOUR DRINKING

(1) Work out beforehand how much you are going to drink.
Planning ahead is very important. If you think beforehand, you can often come
up with ways to stay in control. How long are you likely to be drinking? How many drinks should you have?

Work out how you are going to space those drinks. Keep track of the number of drinks you have had.

(2) Think about your goals before you have a drink.
Try to record your drinking before you actually have a drink. When you can, please write them down on the card we have given you.

We understand that you can't always write it down. Work out how you can record it in some other way. For example, try putting a coin in an empty pocket or in a part of your purse each time you have a drink.

It is very important that you do it before you have the drink. Ask yourself: *"Do I really need this drink?"* Think about your drinking goals.

(3) Make drinking YOUR DECISION, not just a HABIT.
Some "self-encouragement" will help. Say to yourself "I'm in charge here - not alcohol".

(4) Make it harder for yourself to drink a lot.
Work out how much you are going to spend on alcohol. Then either:

- Only have enough money with you to have the number of drinks you

want to have,

or

- Put the alcohol money aside so you can tell when you've spent it.

Some people find it easier to stay in control if they know they will be driving. It also makes it a lot easier to say **NO!**

Sometimes people find it helpful to reduce the amount of alcohol they keep at home. Others keep their favourite drinks in a cellar or in a locked cupboard.

Anything that will make you think twice about the drink before you have it can be useful.

(5) Drink with other people who keep their drinking under control.
Pace your drinking to someone who drinks less than you. Only have another drink when they do.

- Spin out drinks by waiting between sips.
- Try to wait a little longer between sips.
- If you are with other people, get involved in the conversation.
- If there is some food, perhaps you could have something to eat. That will also help you avoid getting drunk very quickly.

(6) Spin out drinks by taking small sips.
- Take smaller sips. Don't gulp your drinks.

(7) Watch salty and spicy foods.
If you have something to eat, watch the salted cracker, chips and nuts--they will make you feel thirsty. (Or, make sure you have a non-alcoholic drink handy).

The same thing applies if you are eating food that are hot or spicy. If the only drink you have is alcohol, you may end up drinking a lot very quickly!

Have alternative non-alcoholic drinks handy.

(8) Always start with a non-alcoholic drink, then make every second drink a non-alcoholic one.
If you are thirsty you tend to drink quickly. So, especially on a hot day, start off with a non-alcoholic drink.

Many people feel more at ease in a social situation if they are holding a

drink, and you may feel the same. But a lot of the time it doesn't have to be an alcoholic drink.

Save the alcohol for the times you really want to enjoy it.

So, have a drink of water or a non-alcohol drink handy. Make every second drink a non-alcoholic one.

Try out different non-alcoholic drinks. Ask your friends or other for suggestions. If you are watching your weight, try some low-calorie drinks.

You will find it much easier to stay in control if you have not become a bit tipsy.

(9) Change to drinks that have less alcohol.
Ways to do this include:

- Switching from straight spirits to mixed drinks.
- Switching to low alcohol beer.
- Switching to low alcohol wine.

(10) Watch cocktails and punches.
Sometimes we have no idea what has gone into a cocktail or a punch, and often the taste of the mixer makes it hard to tell how strong it is.

Drinks with milk or cream--like Brandy Alexanders--slip down very easily, and we often don't notice that we have been drinking them quickly.

Avoid drinks that have unknown amounts of alcohol.

(11) Buy your own drinks.
A "shout" makes it very hard to control your drinking, especially if you are in a large group. If you can't avoid the shout, buy a round early on, so that you can stop whenever you want.

But usually it's best to buy your own drinks and pay cash. At least, if you run out of money, you'll stop drinking.

(12) Ask people not to refill your glass until you have finished the whole drink.
If your glass is being refilled before you have finished it, you will find it very hard to keep track of your drinking. Learn to say things like "I'm right at the

moment thanks" or something similar, or just put your hand over the glass (preferably, before they are pouring the drinks).

(13) Remind yourself why you are trying to cut down.

One of the big puzzles about alcohol is why are people making life so unpleasant for themselves. Remember why you wanted to cut down.

The trouble is, the negative points of excessive drinking often doesn't come to mind when we are having a drink. We are sure that this drink will do good things for us--that it will taste good, or help us relax, or make us feel happier. We are usually good at explaining away the problems when we want to have a drink.

Help yourself to stay on track by writing down the main reasons why you want to cut down. Read it whenever you feel like drinking a lot.

Remember, we have given you a few general tips so far, so don't be hard on yourself if you are not able to keep your drinking under control. Continue to make sure that if you do exceed your daily drinking goal, you make the next day an alcohol free day, so as to prevent developing tolerance to alcohol. This will also give you time to focus.

If you have been finding it hard to stay on track, remember:

Each day is a new day

You can start again right now to try and keep your drinking under control.

We will send you some more information in 2 weeks.

CONTROLLED DRINKING BY CORRESPONDENCE Rx 3 - CBT+SCE

Dear Participant,
In the last mailing we introduced you to cues and triggers that prompt people to drink more. We also introduced you to identify potential cues that are problematic to you and how you can overcome them be practising a new procedure. We would like you to keep doing it regularly. This procedure will assist to reduce your "cravings" or "desires to drink excessively".

We would like to introduce you to a few new skills to cope with Urges and Temptations and some ideas to keep your motivation going.

Many people feel "lost" when they experience an urge or a craving to drink. They feel that merely "thinking" about a drink is equal to experiencing a craving, and hence end up drinking. That is, they may say to themselves "I have an urge, so I need a drink or I'm craving for a drink, so I need to drink".

I have an Urge / Craving ----------> So I must have a drink

Sometimes you may have had just a "passing thought", i.e: "mm, It'll be nice to have a drink". But you may have wrongly labelled it as an Urge or Craving. But because you thought you had an urge or craving, you felt that you MUST drink. After sometimes this becomes an automatic behaviour and you may not even think it through clearly. Let us discuss on ways how you can learn to think of this experience differently.

Next time you think that you have an urge / craving to drink say to yourself: ***"AN URGE IS ONLY A TEMPORARY DESIRE TO HAVE A DRINK."*** And because it is temporary, give it some time, think about something else and it will disappear. With practice and time you will find that the Frequency and the Intensity of these "urges" will reduce.

So the next time you have an "urge":

Stop--------> Ask yourself ----------> Decide

STOP

- Do not drink right away without thinking about it first.
- Remind yourself that the urge will go away after a little while.

ASK YOURSELF

- Do I really want to have this drink?
- What will happen if I start drinking?
- Is today a non-drinking day? If today is a drinking day, what is my drinking goal for today?
- Why do I need to cut down? Why did I seek assistance in the first place?
- What else can I do instead of drinking?

DECIDE

- Whether you will have a drink or not.
- Time for problem solving (see letter 1)

PLAN BEFORE YOU DRINK

You may also start **"Relabelling"** your experiences about Urges and Cravings. Sometimes merely explaining your sensations or feelings in a different way might assist you not to give in. For example, rather than use the term "cravings" or "urges", use the term "temporary desire". That is, say to yourself "I have a temporary desire to drink. Give it some time it will pass away".

Some people find it easy to visualise their urges away. You may also engage in some "Visual Imagery Exercises". For example, visualise your urge or desire as a big balloon. Close your eyes and pretend that this big "desire" balloon is coming near you. Although you initially feel overwhelmed, you take a pin and burst it.

Or visualise your desire or urge as a mosquito buzzing around your head, it is annoying, - so you swat it. Or visualise your desire to drink or urges like birds circling around your head. Sometimes it is difficult to get rid of them, but you sure can prevent them from building a nest on your head.

Note: only a few visual imagery examples are provided here, but you can make your own if you require.

We would also like to introduce you to an "Urge Ratings Exercise". The purpose of this exercise is to show you that desires (or urges) will fluctuate depending on what you are doing or thinking.

URGE RATING HANDOUT EXERCISE

The next time you feel like having a drink try this exercise.

On the scale provided below rate how strong your urge is and mark the time.

For e.g: "0" means no urge or desire, a "5" would mean a moderate urge or desire and a "10" would mean maximum urge or desire.

How strong is your urge / desire?

0 1 2 3 4 5 6 7 8 9 10

No urge Moderate urge Maximum urge

What time is it now?_____

Now wait for an hour or more, distract yourself, or put yourself in a situation where you cannot drink.

After an hour or more try this exercise again.

Now, how strong is your urge / desire?

0 1 2 3 4 5 6 7 8 9 10

No urge Moderate urge Maximum urge

Has your urge / desire to drink gone down. If YES, good.

If NO, don't panic, try this exercise a few more times and you will see a reduction in your ratings.

Sometimes it might help to give yourself a little pep talk. For example you might say to yourself:

"come on, I can do it"
'hang in for a little while longer"
"don't be a weakling"
"things could be much worse"
"I have done it before, I can do it again"
"it's not going to beat me"
"I don't want to drink heavily or get drunk'
"I don't need this drink"
"drinking heavily only causes problems"

You can come up with some of your own such self-encouragement statements.

DISTRACTING YOURSELF

When you have decided that you won't drink, but the urge or temptation has not gone away, you might try distraction techniques. Doing something that is not associated with drinking will help you start to think about something else. These are activities that take your mind away from drinking.

They may be activities that require a lot of attention e.g. reading, concentrating on a different task. They may be activities that take you away from available alcohol e.g. getting out of the house, leaving the party early. They may be activities that you find relaxing e.g. going for a walk, going to a movie.

Plan ahead and decide on distracting activities you can do when an urge or temptation arises. It is important that your activity is one that will assist in decreasing your urge to drink.

HELPING YOU TO KEEP GOING

Throughout the program we will be dealing with several ways that will help you to control your drinking. We have also stressed that it takes time to learn something new. Don't give up because you have a few setbacks. Think of learning to control your drinking as any other skill you need to learn.

For example, if you learn to drive a car you have an instructor who tells you:

- when to put the brake on,
- when to change gears,
- which turn to take,
- how fast you should go, and
- when to indicate, etc.

When you were first learning to drive you needed a lot of instructions, and you most likely made a few mistakes. But as you got better you needed less help. You started to do things automatically without being told. You didn't have to think about them too hard. Eventually you became a competent driver because you stuck to it.

It is the same process for other things you wanted to learn, like typing or learning a foreign language. You stuck at it and remained motivated and committed until you mastered it. Even after you have learnt a "special skill" you can still make mistakes. For example, if you are an accomplished typist and you make a mistake, you don't give up typing forever. You correct the mistake and continue on.

Learning to control your drinking is a special skill. It requires instruction. It also needs you to practice at it for a while. You do make mistakes, but these

are just slip-ups. You will be able to solve problems regarding your drinking with enough practice. The main thing is to keep the same level of motivation that you had at the beginning of the program.

INCENTIVES CAN HELP TO KEEP YOU GOING

Sometimes when people are learning something new they like to treat or reward themselves. This makes learning more fun and it gives them incentives and motivation to keep going.

For example: Bill used to spend over $100 a week on alcohol. The money that Bill was now saving as a result of cutting down his drinking was about $80. He was putting the extra money into a special savings account. At the end of each week, when he stuck to his goal, he would buy himself a small present valued at $20. This left $60 each week unspent. At the end of three months, he would put his total amount towards a new stereo he wanted.

A treat does not have to involve money. It may be taking time out for yourself so that you can do something you want to do. It could involve others so that they too can benefit from your success. An incentive needs to help you master the skill as it keeps you going and keeps you motivated.

You don't need to have a short and long term incentive. Some people only require a long term incentive. What makes you keep going will depend on your own needs. For some, just knowing that they are in control of their drinking can give them a lot of satisfaction. Remind yourself that you want to be a successful moderate drinker and that learning something new takes time. Do not given in if you have a lapse or a slip up or a set back.

What incentives or treats are you going to use to keep you going? (Write them down)

_____

_____

_____

_____

Like all strategies in this program, plan when you will reward yourself or what do you have to achieve before you can treat yourself. Incentives can help in cutting down as they can be something to look forward to.

There are many ways and strategies to be a safe drinker. Choose a way for you. Many people have found the following equation to help them to control their drinking.

_____

We will send you some more information in 2 weeks.

_____

CONTROLLED DRINKING
BY
CORRESPONDENCE
Rx 4 - CBT+SCE

Dear Participant,

In the previous mailings we provided you with some information regarding the effects of alcohol, some ideas to control your drinking, planning to cope with high risk situations, using problem solving strategies, preventing further drinking after consuming some alcohol, and managing urges and temptations. In this mailing we would like to introduce you to ***Preventing Relapses and Lifestyle Modification***.

Relapse Prevention and Lifestyle Modification

An integral part of learning to control your drinking is to realise that learning any new skill takes time. Imagine you are learning to drive a car, learning to speak a foreign language, learning to type, etc. You will make a few mistakes initially, but with practice you will get better. Similarly, when your learning to cut down your drinking you might make a few "mistakes" (that is, you may drink more than you intended to, or drink on days you did not want to drink). You need to look at these situations differently. The idea is to learn from these experiences and plan differently for the next time. You must be able to view minor setbacks as a lapse or a slip. A lapse is **not** a complete failure.

Planning Your Lifestyle

To be a successful controlled drinker you need to:

1. Modify your old drinking habits,

2. Engage in activities that do not lead you back to heavy drinking,

*3. Be firm and believe that the **choice** remain a moderate drinker is yours and yours alone.*

To help you continue, you need to plan your lifestyle so that it will assist you in being a controlled drinker. Plan your lifestyle for the next 6 to 12 months. Modifying your lifestyle will make it more easier to avoid relapse. Engage in activities that help you to deal with or avoid problem situations.

In the next 6 / 12 months, how would you plan to be a safe drinker?

I will (e.g. Avoid drinking with "heavy drinkers".)

_____

_____

_____

_____

_____

_____

_____

_____

GETTING SUPPORT FROM SIGNIFICANT OTHERS

HOW CAN OTHERS ASSIST YOU TO CUT DOWN YOUR DRINKING?

1. WHY DO YOU NEED SUPPORT FROM OTHERS?
Research suggests that positive support from others may actually improve one's chances of achieving one's goals.

2. WHOM SHOULD YOU ASK FOR HELP?
Family, friends, drinking partners, co-workers, etc.

3. HOW DO YOU ASK FOR SUPPORT?
Be specific, be direct, plan ahead and decide how various people can help you in specific ways. For eg: tell your heavy drinking friends (when they are sober) of your intention to cut down and ask them if they are willing to assist you to achieve your goals.

4. WHAT CAN OTHERS DO TO HELP?
Plenty. If they agree to assist you, you may tell the people you regularly drink with to ask you if you want to drink and what you want to drink, before they order a drink for you. Close family or friends can also assist you by recognising the "difficulties" you may have in changing your heavy drinking behaviour; by accepting that changing such behaviours may take some time, and accepting that you may make a few "mistakes" initially, and drinking more than your "goal" on any one day does not mean your are "weak" or have "relapsed" to your old habits, etc.

You may also wish to "nominate" an individual with whom you may wish to "talk" about the way you feel, spend time, etc. whenever you feel like having a drink.

5. WHAT TO DO IF YOU LIVE WITH A HEAVY DRINKER?

You may not be in a position to "change" others behaviours but you can still count on them to "assist" you. For e.g. You can inform them of your alcohol free days and ask them not to invite you to drink on those days. Come to an agreement that will not jeopardise your efforts.

6. WHAT TO DO IF SOMEONE UNDERMINES YOUR ATTEMPTS TO CUT DOWN DRINKING?

Sometimes your friends may not take your efforts seriously. They may think that you are not really serious because you had made similar plans in the past and have never succeeded. Also, some of your drinking friends may feel "uneasy" of your efforts. They may think that they will lose your company and friendship. Inform them that you are planning to cut down your drinking NOT their friendship. With some people you may have to repeat these messages a few times.

Controlling your drinking is a skill that takes time to learn. Like all skills it takes a lot of practice and involves making mistakes. What is important is to keep at it. Motivate yourself to do well, continue the effort. With each success will come increased confidence in your ability to control your drinking.

We will get in touch with you in 6-months time to see how you are going.

CONTROLLED DRINKING BY CORRESPONDENCE Rx - CIAF

Dear _____, thank you for returning the assessment forms. This personal report was prepared for you based on your responses.

USUAL QUANTITY OF ALCOHOL CONSUMPTION

From your responses we noted that:

Your daily consumption pattern is: _____ drinks per drinking day.

Your weekly consumption is:_____ drinks per week.

Health experts recommend that men drink no more than 4 standard drinks on any one drinking occasion - no more than 4 days per week; and women drink no more than 2 standard drinks on any one drinking occasion - no more than 4 days per week. That is, both men and women **MUST** have at least 2 to 3 alcohol free days per week.

NEED FOR ALCOHOL FREE DAYS

From your responses we noted that you drink:

- Every day of the week
- 6 days a week
- 5 days a week•
- 4 days or less

You **MUST** have at least 2 to 3 alcohol free days per week. This is important for the following reasons:

- Avoiding daily drinking reduces the overall consumption.
- Avoiding daily drinking reduces the build up of tolerance to alcohol.

In other words, you will not have a high tolerance for alcohol, and even small amounts of alcohol can make you "feel good".

BINGE DRINKING

We also noted that you drink excessive amounts (binge drinking) on certain days. From your records you drink at least

_____ drinks	
Almost every day	Once a week
Once a fortnight	Once a month

Binge drinking, ie: drinking more than 6 standard drinks per occasion can cause serious health risks including impairment of brain functions.

COMPARISON CHARTS

You will find enclosed a **comparison chart** indicating **How Much You drink and How Often You Drink** compared to other adult Australians. This is based on the information you have provided about how much you drink and how often you drink.

HOW MUCH ALCOHOL YOU HAVE DRUNK IN THE PAST 6 MONTHS AND HOW MUCH DID IT COST YOU?

Based on the information you provided us you consumed:

_____ drinks in the past 6 months

Let us assume you spend a minimum of $2 per standard drink (consumed at home), then you spent $ _____ on alcohol during the past 6 months.

If you drink in a pub or hotel, the cost of alcohol is even more. If we assume the cost of a standard drink in a pub or hotel is $3, then regular hotel / pub drinkers would have spent at least:

$_____ on alcohol during the past 6 months

ALCOHOL = EMPTY CALORIES

Alcohol contains empty calories. That is, they do not contain nutritional value. If we calculate one standard drink to have an average of 100 calories, then you obtain:

_____ calories per **day** from alcohol/_____ calories per **week** from alcohol

Note that these calories are in addition to the calories acquired from eating food.

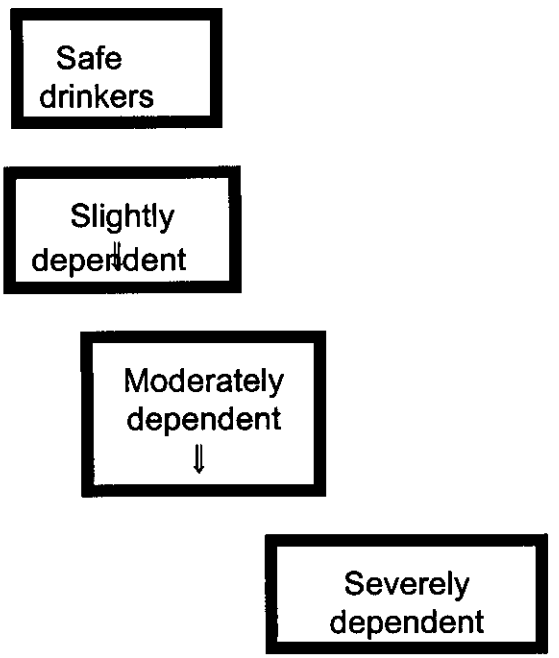
SEVERITY OF ALCOHOL DEPENDENCE

In the past, people with drinking problems were called alcoholics. We do **NOT** recommend such terms. Instead, we view severe problem drinking as being dependent on alcohol. And problem drinkers may be dependent on alcohol on varying degrees. For eg: some may be slightly dependent on alcohol, some may be moderately dependent, some substantially dependent and some severely dependent (see dependency status chart).

DEPENDENCY STATUS CHART

From your responses we believe that you are:

1. Slightly dependent on alcohol
2. Moderately dependent on alcohol
3. Substantially dependent on alcohol



You must move away from the dependence category to the safe drinkers category.

ARE YOU CONFIDENT THAT YOU WILL NOT DRINK HEAVILY IN A "DIFFICULT" SITUATION?

There is good evidence to suggest that those who are ***CONFIDENT*** face different, difficult problem situations without drinking excessively.

For eg. if someone is not at all confident that they can drink two drinks or less when they are stressed, may actually end up drinking a lot more. Similarly if someone is not confident that they can drink two drinks or less when they are in a "shout situation", may actually drink heaps more.

This type of confidence is called ***SELF - EFFICACY***. From your responses we noted that you are not very confident in your abilities to drink less when you are: (the ticked items are taken from your responses)

- ANGRY
- DEPRESSED
- PHYSICALLY TIRED
- AT A PARTY WITH FRIENDS

- DRINKING BEFORE/WITH A MEAL
- BORED
- IRRITATED
- NOT RELAXED IN A SOCIAL SITUATION
- WATCHING T.V. (EG: SPORTS, MOVIES)
- WORRIED
- IN A SHOUT SITUATION WITH FRIENDS
- HAPPY
- WANT TO FEEL MORE CONFIDENT
- STRESSED
- SOMEONE OFFERS TO BUY YOU FREE DRINKS

You are also NOT confident in your ability to have:

- less than 3 drinks on any one time
- less than 1 drink on any one time

We also noticed that you do not think that you can stop yourself from drinking at least:

- 1 day a week
- 2 days a week
- 3 days a week

Benefits of cutting down

Also enclosed is a copy of the form you completed indicating what benefits you expect if you cut down your drinking. Use them as reminders whenever you feel like drinking more.

We will contact you again in 6-months to see how you are going.

APPENDIX - 3

Table 22 - A Predicting Quantity of Consumption at Post treatment (Study 1).

Correlations and Significance

	QAPOSTDR	QAPREDR1	pretreat sadq	pretreat icq	AGE	CDSESPRE	LOT	OE	GENDER	CBTCIAF	IMMDELAY
Pearson Corre											
QAPOSTDR	1.00	.448	-.038	.004	-.013	-.177	.239	-.050	.082	-.516	.067
QAPREDR1	.448	1.000	-.044	.119	-.088	.001	.111	.038	-.207	.033	.089
pretreat sadq	.038	-.044	1.000	-.039	-.005	-.052	-.075	-.056	-.78	-.055	-.116
pretreatment icq	.004	.119	-.039	1.000	.103	.210	-.054	-0.22	-.022	.092	.004
AGE	-.013	-.088	-.005	.103	1.000	.134	.001	-.039	.141	.018	.052
CDSESPRE	-.177	.001	-.052	.210	.134	1.000	.003	-.073	.009	.300	.099
LOT	.239	.111	-.075	-.054	.001	.003	1.000	.260	-.026	.046	-.012
OE	-.050	.038	-.056	-.022	-.039	-.073	.260	1.000	-.184	.124	-.010
GENDER	.082	-.207	-.078	-.022	.141	.009	-.026	-.184	1.000	-.095	.097
CBTCIAF	-.516	.033	-.055	.092	.018	.300	.046	.124	-.095	1.000	.047
IMMDELAY	.067	.089	-.116	.004	.052	.099	-.012	-.010	.097	.047	1.000
Sig.(1-tailed)											
QAPOSTDR	.	.001	.325	.483	.437	.016	.002	.274	.162	.001	.209
QAPREDR1	.001	.	.300	.076	.143	.497	.089	.325	.006	.346	.142
pretreat sadq	.325	.300	.	.320	.476	.267	.183	.249	.173	.255	.080
pretreatment icq	.483	.076	.320	.	.107	.005	.258	.397	.394	.133	.482
AGE	.437	.143	.476	.107	.	.052	.499	.320	.044	.415	.265
CDSESPRE	.016	.497	.267	.005	.052	.	.487	.189	.459	.001	.116
LOT	.002	.089	.183	.258	.499	.487	.	.001	.378	.290	.443
OE	.274	.325	.249	.397	.320	.189	.001	.	.013	.067	.454
GENDER	.162	.006	.173	.394	.044	.459	.378	.013	.	.125	.121
CBTCIAF	.001	.346	.255	.133	.415	.001	.290	.067	.125	.	.284
IMMDELAY	.209	.142	.080	.482	.265	.116	.443	.454	.121	.284	.

Table 23 - A Predicting Frequency of drinking at Post treatment (Study 1).

Correlations and Significance

	FRPOST DR	Pretreat sadq	Pretreat icq	AGE	CDDSES PRE	LOT	OE	GENDER	CBT CIAF	IMM DELAY	FRPRE DR
PearsonCorre	1.000	.050	.001	.080	-.196	-.001	-.169	.193	-.694	.016	-.018
pretreat sadq	.050	1.000	-.039	-.005	-.052	-.075	–.056	-.078	-.055	-.116	-.018
pretreat icq	.001	-.039	1.000	.103	.210	-.054	-.022	.022	.092	.004	.069
AGE	.080	-.005	.103	1.000	.134	.001	-.039	.141	.018	.052	.114
CDSESPRE	-.196	-.052	.210	.134	1.000	.003	-.073	.009	.300	.099	-.097
LOT	-.001	-.075	-.054	.001	.003	1.000	.260	-.026	.046	-.012	-.046
OE	-.169	-.056	-.022	-.039	-.073	.260	1.000	-.184	.124	-.010	.044
GENDER	.193	-.078	-.022	.141	.009	-.026	-.184	1.000	-.095	.097	-.022
CBTCIAF	-.694	-.055	.092	.018	.300	.046	.124	-.095	1.000	.047	.022
IMMDELAY	.016	-.116	.004	.052	.099	-.012	-.010	.097	.047	1.000	-.359
FRPREDR1	-.018	-.018	.069	.114	-.097	-.046	.044	-.022	-.359	-.359	1.000
Sig.(1-tailed)											
FRPOSTDR	.	.273	.498	.166	.008	.497	.020	.009	.001	.424	.416
pretreat sadq	.273	.	.320	.476	.267	.183	.249	.173	.255	.080	.413
pretreat icq	.498	.320	.	.107	.005	.258	.397	.394	.133	.482	.202
AGE	.166	.476	.107	.	.052	.499	.320	.044	.415	.265	.083
CDSESPRE	.008	.267	.005	.052	.	.487	.189	.459	.001	.116	.121
LOT	.497	.183	.258	.499	.487	.	.001	.378	.290	.443	.288
OE	.020	.249	.397	.320	.189	.001	.	.013	.067	.454	.298
GENDER	.009	.173	.394	.044	.459	.378	.013	.	.125	.121	.396
CBTCIAF	.001	.255	.133	.415	.001	.290	.067	.125	.	.284	.393
IMMDELAY	.424	.080	.482	.265	.116	.443	.454	.121	.284	.	.001
FRPREDR1	.416	.413	.202	.083	.121	.228	.298	.396	.393	.001	.

Table 24 - A Predicting Quantity of Consumption at Follow-up (Correlations and Significance) (Study 1)

	QAFUP DR	Pretreat Sadq	Pretreat icq	AGE	CDSES PRE	LOT	OE	GENDER	CBT CIAF	IMM DELAY	QAPRE DR1
Pearson Corre											
QAFUPDR	1.000	.013	-.039	.014	.014	.081	-.114	.064	-.839	-.107	.132
pretreat sadq	.013	1.000	-.120	-.014	-.080	-.099	-.089	-.017	-.100	-.104	-.042
pretreatment icq	-.039	-.120	1.000	.071	.161	-.083	-.032	.007	.057	.082	.088
AGE	.014	-.014	.071	1.000	.198	-.015	-.009	.099	.049	.019	-.083
CDSESPRE	-.104	-.080	.161	.98	1.000	-.011	-.077	-.022	.224	.192	.041
LOT	.018	-.099	-.083	-.015	-.011	1.000	.279	-.046	.023	-.003	.148
OE	-.114	-.089	.032	.009	-.077	.279	1.000	-.168	.184	.015	.050
GENDER	.064	-.017	.007	.099	-.022	-.046	-.168	1.000	-.110	.082	-.254
CBTCIAF	-.839	-.100	.057	.049	.224	.023	.184	-.110	1.000	.106	.095
IMMDELAY	-.107	-.104	.082	.019	.192	-.003	.015	.082	.106	1.000	.159
QAPREDR1	.132	-.042	.088	-.083	.041	.148	.050	-.254	.095	.159	1.000
Sig.(1-tailed)											
QAPREDR	.	.446	.342	.441	.137	.197	.115	.252	.001	.131	.083
pretreat sadq	.446	.	.103	.442	.201	.151	.175	.428	.146	.137	.330
pretreatment icq	.342	.103	.	.228	.045	.191	.369	.470	.275	.196	.179
AGE	.441	.442	.228	.	.018	.437	.463	.149	.305	.420	.193
CDSESPRE	.137	.201	.045	.018	.	.456	.209	.409	.009	.021	.333
LOT	.197	.151.	.191	.437	.456	.	.001	.316	.405	.485	.059
OE	.115	.175	.369	.463	.209	.001	.	.038	.026	.437	.299
GENDER	.252	.428	.470	.149	.409	.316	.038	.	.124	.195	.003
CBTCIAF	.001	.146	.275	.305	.009	.405	.026	.124	.	.133	.159
IMMDELAY	.131	.137	.196	.420	.021	.485	.437	.195	.133	.	.047
FRPREDR1	.083	.330	.179	.193	.333	.059	.299	.003	.159	.047	.

Table 25 - A Predicting Frequency of Drinking at Follow-up (Study 1).

Correlations and Significance

	CDSES POST	pretreat sadq	pretreat icq	AGE	CDSES PRE	LOT	OE	GENDER	CBT CIAF	IMM DELAY	FRE PREDR1
Pearson Correl											
CDSESPOST	1.000	.124	-.019	.080	-.113	.150	-.059	.116	-.710	-.071	-.112
pretreat sadq	.124	1.000	-.125	.040	-.095	-.107	-.-91	-.036	-.081	-.090	.008
pretreatment icq	-.019	-.125	1.000	.058	.164	-.081	-.031	.011	.054	.079	.013
AGE	.080	.040	.058	1.000	.166	-.029	-.014	.068	.071	.036	.106
CDSESPRE	-.113	-.095	.164	.166	1.000	-.006	-.075	-.013	.215	.186	-.136
LOT	.150	-.107	-.081	-.029	-.006	1.000	.279	-.040	.018	-.007	-.038
OE	-.059	-0.91	-.031	-.014	-.075	...279	1.000	-.165	.182	.014	.500
GENDER	.116	-.036	.011	.068	-.013	-.040	-.165	1.000	-.118	.075	-.031
CBTCIAF	-.710	-.081	.054	.071	.215	.018	.182	-.118	1.000	.111	.037
IMMDELAY	-.071	-.090	.079	.036	.186	-.007	.014	.075	.111	1.000	-.350
FRPREDR1	-.112	.008	.013	.106	-.136	-.038	.050	-.031	.037	-.350	1.000
Sig.(1-tailed)											
CDSESPOST	.	.096	.420	.200	.116	.056	.267	.110	.001	.229	.119
pretreat sadq	.096	.	.093	.338	.159	.131	.168	.354	.196	.172	.466
pretreatment icq	.420	.093	.	.271	.042	.196	.371	.455	.286	.202	.445
AGE	.200	.338	.271	.	.040	.381	.441	.237	.229	.353	.133
CDSESPRE	.116	.159	.042	.040	.	.475	.214	.444	.011	.024	.076
LOT	.056	.131	.196	.381	.475	.	.001	.336	.423	.472	.344
OE	.267	.168	.371	.441	.214	.001	.	.040	.027	.442	.299
GENDER	.110	.354	.455	.237	.444	.336	.040	.	.107	.214	.374
CBTCIAF	.001	.196	.286	.229	.011	.423	.027	.107	.	.121	.348
IMMDELAY	.229	.172	.202	.353	.024	.472	.442	.214	.1221	.	.001
FRPREDR1	.119	.466	.445	.133	.076	.344	.299	.374	.348	.001	.