

## Online community reinforcement and family training (CRAFT) for rural concerned significant others: A randomized controlled trial

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### ABSTRACT

**Introduction:** Despite Community Reinforcement and Family Training (CRAFT) being used throughout the United States of America and some parts of Europe, CRAFT has not been explored in rural Australia. This study aimed to evaluate the effectiveness on psychological scales of an online, practitioner-led delivery of Community Reinforcement and Family Training (CRAFT) in a rural Australian context.

**Methods:** A randomized controlled trial (RCT) using a parallel-group, two-arm, superiority design, with a baseline assessment, and two follow-up assessments. Adult concerned significant others were recruited from rural areas across Australia, via Facebook and Instagram. Participants were randomized (1:1) into the CRAFT or Waitlist groups. The CRAFT intervention consisted of 6 sessions of 60 min each, conducted over 6 weeks. Participants randomized to the waitlist received reading resources from the Center for Motivation and Change (2022). The primary outcome was the psychological well-being of the participant. Psychological well-being scales included the DASS-21, SWLS, FS, and Brief-COPE.

**Results:** 126 participants were enrolled and randomly assigned to either the CRAFT intervention ( $n = 64$ ) or Waitlist ( $n = 62$ ). At baseline, the mean age of participants was 51.08 years ( $SD = 10.88$ ). Females comprised of 92.06 % of the sample. Most participants (86.4 %) were born in Australia and 87.9 % identified as White/Caucasian. Post-intervention scores found a statistically significant difference between the intervention and waitlist groups. This included in the intervention group, a decrease in depression scores (DASS-21), with an adjusted mean difference of  $-2.71$  (95 % CI:  $-5.36$  to  $-0.06$ ) between interventions and waitlist group, a significant increase in Satisfaction with Life scores (SWLS), with an adjusted mean difference of  $1.98$  (95 % CI:  $0.45$  to  $3.50$ ) and a significant increase in the use of problem-focused coping with an adjusted mean difference of  $2.92$  (95 % CI:  $1.33$  to  $4.51$ ).

**Conclusion:** Online CRAFT for rural Australians decreased depression, increased life satisfaction and increased problem-focused coping.

### 1. Introduction

Problematic substance use of a loved one (identified person, IP) can significantly impact the well-being of family and friends (hereafter referred to as concerned significant others, CSOs) (Hellum et al., 2021). CSOs often experience stress, worry, financial strain and disrupted family relationships related to the IP's substance use (Gandhi et al., 2017; Gohil et al., 2016; Lander et al., 2013; Mardani et al., 2023;

Marshal, 2003). Further, CSOs tend to have higher prevalence of mental health conditions such as depression and anxiety (Gandhi et al., 2017; Gohil et al., 2016). Programs designed for CSOs are important to facilitate their own well-being, improve family functioning, and potentially reduce IP substance use (Cassidy & Poon, 2019; Fals-Stewart et al., 2008; Siljeholm, Eckerström, et al., 2024). However, access to CSO-specific services remains limited globally (Richert et al., 2021), and online resources rarely target CSO needs (Cassidy & Poon, 2019;

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European Monitoring Centre for Drugs and Drug Addiction, 2022; Health New Zealand Te Whatu Ora, 2023; McCann & Lubman, 2018; Substance Abuse and Mental Health Services Administration, 2023). Within Australia, there is a significant gap in support services for CSOs, with only 8.1 % of all substance treatment episodes provided to CSOs in 2022 (Alcohol and Drug Foundation, 2024; Australian Institute of Health and Welfare, 2023a). This issue is exacerbated in rural areas where higher levels of substance use, poorer health and limited health service access are common (Australian Institute of Health and Welfare, 2023b; Lawrinson et al., 2006; Monnat & Rigg, 2016; Roxburgh et al., 2013).

Rural Australians face additional barriers when seeking support services for substance use. One barrier is the lack of services throughout rural Australia, with the majority (57 %) of treatment services located in major cities (Australian Institute of Health and Welfare, 2023a). The geographical distance between these limited services can mean significantly large travel distances for rural Australians, compounded by fewer transport options (Thorn & Olley, 2023). Additionally, living in a small community reduces anonymity and confidentiality, increasing hopelessness and shame when raising substance problems with local healthcare providers (McCann & Lubman, 2018; Thorn & Olley, 2023). These challenges highlight the need to improve access to support services for CSOs in rural Australia.

Online services may help improve healthcare access for rural Australians. Online interventions for substance use have been shown to be highly satisfactory for both CSOs and individuals using substances (Dilkes-Frayne et al., 2019; Frueh et al., 2005; Giroux et al., 2017). However, many of these interventions focus on the IP (Frueh et al., 2005; Giroux et al., 2017; White et al., 2010) or do not specifically assess the mental health outcomes of the CSO (Dilkes-Frayne et al., 2019). Despite the growing evidence supporting online interventions, there remains a need for online interventions specifically designed to support CSOs and address their unique concerns.

Community Reinforcement and Family Training (CRAFT) is an evidence-based intervention designed to support CSOs and to engage IPs into substance use treatment (Archer et al., 2020; Bischof et al., 2016; Hellum et al., 2019; Meyers et al., 2002; Roozen et al., 2004). CRAFT was originally developed for CSOs of people using substances who were treatment resistant (Smith et al., 2023). CRAFT has demonstrated cross-cultural effectiveness (Archer et al., 2020; Bischof et al., 2016; Hellum et al., 2019; Roozen et al., 2022) and supports the CSO directly to improve their own psychological functioning (Smith & Meyers, 2004). Through personalised training and support, CSOs learn to effectively remove positive reinforcement for substance use while increasing positive reinforcement for non-using behaviour (Meyers et al., 2001), ultimately aiming to help the IP enter treatment or reduce their substance use (Copello et al., 2005; Roozen et al., 2010).

Face-to-face CRAFT trials in the United States of America (USA) and Europe have reported improved mental health, quality of life and relational functioning for the CSO, as well as reduced substance use of the IP (Bischof et al., 2016; E k et al., 2020; Hellum et al., 2019; Meyers et al., 2002; Miller et al., 1999; Siljeholm, Edvardsson, et al., 2024). However, online CRAFT adaptations have shown mixed impact on CSO treatment outcomes (E k et al., 2020; Osilla et al., 2024; Siljeholm et al., 2022). For example, E k et al. (2020) delivered five online CRAFT modules, comprising of texts and short films with participants self-reporting reduced depression and emotional avoidance at six-week follow-up, but no significant differences were found for anxiety or stress. Similarly, Siljeholm et al. (2022) adapted the CRAFT intervention into a self-guided online format using reading materials and short videos. Using the DASS-21 and Satisfaction with Life Scale (SWLS), Siljeholm et al. (2022) found that while there was no reduction in depression, anxiety or stress, there was a reduction in the IPs substance use. A potential reason for a lack of mental health improvements in these studies may be due to the absence of practitioner interaction, relying instead on automated, self-guided delivery, limiting the applicability of findings to

practitioner-facilitated models. Implementation of virtual face-to-face meetings with a practitioner represents the most direct translation of the CRAFT intervention into an online format, as demonstrated in two studies that have delivered practitioner-led online CRAFT.

Adapting CRAFT for face-to-face delivery via group telehealth sessions, and comparing these sessions to treatment-as-usual peer support, Osilla et al. (2024) reported significant reductions in CSO rates of depression and anxiety in both groups. However, the online CRAFT group had a low reach ( $n = 13$ ), which may have contributed to similar improvements across the groups. Further, the intervention was specifically designed for CSOs whose identified person (IP) was using opioids, which may limit the generalizability of the findings to CSOs supporting individuals using other substances. Similarly, McCarthy et al. (2022) evaluated online, individual practitioner-delivered CRAFT for CSOs of individuals experiencing early psychosis alongside a substance use disorder. This study also observed reductions in depression, stress, and anxiety, highlighting the potential of practitioner-led online CRAFT to improve CSO wellbeing across different clinical populations.

As these studies were conducted in Sweden (E k et al., 2020; Siljeholm et al., 2022) and the USA (McCarthy et al., 2022; Osilla et al., 2024), further research is needed to evaluate the efficacy of CRAFT in other countries, such as the Australian context. Additionally, further research is needed to assess the effectiveness of practitioner-delivered CRAFT in an online format. Lastly, existing studies have not explored the implementation of CRAFT in rural communities, highlighting the need for targeted studies in this setting.

The current study aimed to evaluate the effectiveness of an online practitioner delivery of CRAFT to CSOs in rural Australia. The study hypothesised that CRAFT delivered online by accredited psychologists would be more effective than CRAFT self-help information. Compared to the wait-list control group, the CRAFT intervention group would show a significant decrease in self-reported levels of depression, anxiety and stress and a significant increase in life satisfaction. The current study is the first to evaluate CRAFT delivered online in Australia. This study addresses significant gaps in the literature by examining the psychological well-being of rural Australian CSOs who completed CRAFT online, compared to those in a waitlist control group. The current study also contributes to the emerging literature of online practitioner-delivered CRAFT.

## 2. Methods

### 2.1. Study design

This randomized controlled trial (RCT) used a parallel-group, two-arm, superiority design to assess the effectiveness, feasibility, and acceptability of an online practitioner-delivered CRAFT intervention. The trial was approved by the Charles Sturt University Human Research Ethics Committee (approval number H23769) and prospectively registered with the Australian New Zealand Clinical Trials Registry (ANZCTR, ACTRN12623000796684) on 26 July 2023 (Allan, Snowdon, Ahmed, Thapa, Ivory, Gray, et al., 2023; Allan, Snowdon, Ahmed, Thapa, Ivory, Shakeshaft, & Farnbach, 2023). The protocol was published in BMC Psychiatry (Allan et al., 2024).

### 2.2. Participants

Adult CSOs were recruited from rural areas across Australia (operationalised as Modified Monash Model 2-7, Department of Health and Aged Care, 2023) via paid Facebook and Instagram advertisements. Interested CSOs could register securely online or contact the study coordinator. Potential participants were required to meet the following eligibility criteria:

- (a) family member or friend of someone with a substance dependence;

- (b) speak English;
- (c) 18 years old or over;
- (d) able and willing to attend CRAFT sessions;
- (e) able to provide informed consent;
- (f) have at least one contact per day on four days over the past month (in-person or electronic) with the IP;
- (g) have access to a computer with internet or mobile phone with video conferencing capabilities; and
- (h) live in regional Australia

#### Exclusion criteria:

- (a) current or historic domestic or family violence with the IP; and/or
- (b) current participation in other family support/family programs.

### 2.3. Screening

To assess eligibility, potential participants were screened over the phone using a standardized screening process by trained researchers (supplementary file A). Potential participants received information about the program, procedures, and outcome measures, and were informed of their eligibility immediately. Ineligible CSOs were provided with local support resources. Eligible participants completed an online consent and baseline measure, then randomized to the intervention or waitlist group. CSO details were then provided to practitioners for scheduling of appointments.

### 2.4. Sample size

Sample sizes from previous RCTs on CRAFT were reviewed to inform the required sample size. The final sample included 126 participants (intervention  $n = 64$ , waitlist  $n = 62$ ). A post-hoc power analysis using G\*Power 3.1.9.7 confirmed sufficient power of 0.98 ( $1 - \beta$  error probability) to detect meaningful effects, with  $\alpha = 0.05$  and an estimated effect size of 0.15.

### 2.5. Randomisation and blinding

An independent statistician (KYA) randomized participants (1:1) into the CRAFT or Waitlist groups using STATA software (v18 MP) and the 'randomizr' package, which ensures random allocation at the individual level and prevents predictability despite equal group assignment. 1:1 randomisation can allow some predictability, but allocation concealment was rigorously maintained using the independent statistician (centralized randomisation), minimising the risk of selection bias. The researchers responsible for participant screening (HG and NS) were blinded to the allocation sequence. Each participant was assigned an identification number and, after completing baseline assessments, was randomly allocated to either the CRAFT group or Waitlist group. The control group waited six weeks before receiving the intervention.

The program was delivered online by trained practitioners unaffiliated with the research, minimising the risk of researcher bias. Clinicians were blinded to group allocation and only received participant contact details. Participants were informed of their intervention start date as either: (1) within seven days (Group A – Intervention) or (2) after six weeks (Group B – Waitlist Control), without being explicitly told which group they were assigned to. Unblinding was not anticipated to be necessary as the waitlist control design ensured all participants ultimately received the intervention.

### 2.6. Intervention procedure

#### 2.6.1. Program

CRAFT was renamed the Family Empowerment Program for delivery.

#### 2.6.2. Treatment for CSOs

The intervention included six 60-min sessions over 6 weeks. Practitioners followed the Family Empowerment Program Brief Facilitator Guide (Allan & Snowdon, n.d.), adapted from the original CRAFT materials (Smith et al., 2023) and created by JA (an accredited CRAFT therapist, supervisor, and trainer). The six sessions are summarised in Table 1 below.

Participants could access two additional sessions for additional support and skill consolidation. Session summaries recorded date, length, action goal, and aspects of online delivery (i.e., sound/video quality and technical difficulties; see supplementary file B). Waitlist participants received reading resources from the Center for Motivation and Change (2022) and after completing their post-waitlist measure, completed six CRAFT sessions.

#### 2.6.3. Therapists

Eighteen provisional and accredited psychologists from across New South Wales, Victoria, and Queensland, attended a two-day CRAFT training course, provided by a certified CRAFT trainer and supervisor. Experiential sessions practicing CRAFT routines provided practitioners with the practical skills to deliver the program.

Following training, ten practitioners provided the online practitioner-delivered CRAFT intervention while simultaneously engaging in an ongoing CRAFT accreditation process with an accredited CRAFT supervisor based in the USA. The process took place throughout the course of the intervention and included two online supervision sessions, conducted in months six and seven. In addition, structured assessments of CRAFT routines were carried out using de-identified audio-recorded CRAFT sessions between a practitioner and client. Practitioners received written feedback from the supervisor. Six practitioners successfully acquired accreditation during the project and delivered 629 sessions of CRAFT in total. The four practitioners who did not acquire accreditation delivered 22 sessions altogether.

### 2.7. Measures and assessment

#### 2.7.1. Primary and secondary outcomes

An outcome evaluation was conducted within and between the groups. CRAFT participant outcomes were compared to a waitlist-control (reading material) group. The primary outcome was self-reported psychological well-being of the CSO. The secondary outcome was CSOs self-reported coping style.

#### 2.7.2. Study measures

Baseline demographic data collected from CSOs included age, gender, ethnicity, living arrangements, financial support, education, relationship status, and relationship to the IP. Information on the IPs

**Table 1**  
Craft session outlines.

Session #	Session summary
1	Introductions, program overview, participants share their story, completion of happiness scale, and goal-setting exercise
2	Review participants performance on practice task set in the first session, introduce and practice positive communication, plan first milestone conversation
3	Review first milestone conversation, conduct functional analysis of the IPs substance use, and plan second milestone conversation
4	Review second milestone conversation, complete functional analysis of the IPs healthy behaviours, discuss time out from positive reinforcement, and plan practice task for the week
5	Review planned activity from previous session, introduce and practice the problem-solving procedure, discuss how to allow for the natural consequences of substance use, and plan third milestone conversation
6	Review third milestone conversation, discuss encouraging IP into substance treatment, and conduct program review

substance use (type, frequency, and mental health diagnosis) was also gathered. Psychological well-being was assessed using the following measures:

**2.7.2.1. Depression, anxiety, and stress scale (DASS-21).** Developed in Australia, the DASS-21 (Lovibond, 1998) is a 21-item self-report questionnaire designed to assess depression, anxiety, and stress across three subscales. Each subscale is rated on a four-point Likert scale with higher scores indicating greater symptom severity. All DASS-21 subscales demonstrate high internal consistency (depression,  $r = 0.88$ ; anxiety,  $r = 0.82$ ; stress  $r = 0.90$ ; total scale ( $r = 0.93$ ; Gloster et al., 2008). Consistent with standard practice in DASS-21 reporting, mean scores were rounded to the nearest whole number for categorization into severity ranges (Henry & Crawford, 2005).

**2.7.2.2. Satisfaction with life scale (SWLS).** The SWLS (Diener et al., 1985) is a five-item self-report measure assessing global life satisfaction. Scores can range from 5 to 25 with higher scores indicating higher levels of satisfaction. The SWLS has demonstrated moderate temporal stability (Pavot & Diener, 1993) and good to high internal consistency, with six separate studies revealing the coefficient alphas ranging from 0.79 to 0.89 (Pavot & Diener, 2008).

**2.7.2.3. The flourishing scale (FS).** The FS (Diener et al., 2010) is an eight-item self-report measure designed to assess social-psychological well-being. Scores can range between 8 and 56, with higher scores indicating higher levels of well-being, psychological resources, and strengths (Diener et al., 2010). The FS has demonstrated high internal consistency ( $\alpha = 0.87$ ) and moderately high temporal stability (0.71; Diener et al., 2010). The FS also strongly positively correlates with other well-being scales such as Ryff Scales of Psychological Well-being and Ryan's Basic Need Satisfaction in General scale (Diener et al., 2010).

**2.7.2.4. Brief coping with problems experienced (Brief COPE).** The Brief COPE (Carver, 1997) is a 28-item scale designed to evaluate coping strategies that individuals employ in everyday situations. The 14 coping strategies can be categorised into three distinct types: problem-focused coping, emotion-focused coping, and avoidant coping (DeDios-Stern et al., 2017). Scores for each subscale were computed by summing the corresponding items with higher scores indicating a greater preference for each coping style. The three coping categories have strong internal consistency (e.g., reported as  $\alpha = 0.72-0.84$  for caregivers of individuals with dementia, DeDios-Stern et al., 2017).

See supplementary file C for further measure details.

**2.8. Data collection procedure**

Data was collected at three points. For both intervention and waitlist group, CSOs completed an informed consent form and baseline outcome measure (OM1) before randomisation and practitioner assignment, ensuring pre-intervention data consistency. The baseline assessment collected demographic details and baseline measures of the primary and

**Table 2**  
Data collection timepoints.

Time point	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18		
Approx. weeks																				
Intervention	Screening	Outcome Measure 1 (Baseline)	Intervention: CRAFT						Outcome Measure 2 (approx. 1 week post completion for intervention group)			Receive CRAFT intervention						Outcome Measure 3 (approx. 1 week post intervention completion for waitlist group)		
Waitlist			Waitlist: reading material																	

**Note.** CRAFT involved six sessions over six weeks, however participants were offered up to an extra two sessions if needed. If participants took longer than six weeks to complete the program, OM2 (intervention) or OM3 (waitlist) were adjusted accordingly.

secondary outcome variables. Outcome measures were re-administered at the second assessment point (outcome measure 2 [OM2]) and follow-up (outcome measure 3 [OM3]) to track changes over time (Table 2). For the intervention group, OM2 was conducted immediately post-intervention, while OM3 took place six weeks after program completion. For the waitlist group, OM2 occurred six weeks post-randomisation, and OM3 occurred following the completion of the final session. Participants who dropped out of treatment were invited to still complete outcome measures. For these participants, outcome measures were administered based on the expected program completion timeline (OM1, OM2 at approximately 8 weeks and OM3 at approximately 18 weeks). Data was collected using the online Question-Pro platform. Completion of the measures took approximately 15 to 30 min.

If consent and baseline measures were not completed, SMS reminders were sent after two days. If still incomplete, participants were contacted by phone to offer assistance. Follow-up reminders were sent via SMS or email on days 1, 3, 7, 11 and 14 over a two-week period. Participants who completed all three surveys received a Prezzy gift card of \$120. Previous research has shown that payment for surveys can significantly improve retention rates (Bigorra & Baños, 1990; Robinson et al., 2015).

**2.9. Data analysis procedure**

Descriptive statistics including means and standard deviations (SD) for continuous variables and frequencies and percentages for categorical variables were calculated to describe the baseline characteristics of the study participants. Change in the primary and secondary outcomes for each participant over time are presented using Spaghetti plots (supplementary file D), while the changes in mean score are displayed in a line plot.

Linear mixed-effects models were used to analyse treatment effects, incorporating baseline outcome scores, time, treatment group, and a time-by-treatment interaction as fixed effects, with participants included as a random effect. See supplementary file E for a detailed description of the analysis procedure.

Treatment effects were reported as the adjusted mean difference between groups with 95 % confidence intervals (CIs). Additionally, Cohen's d effect sizes (Cohen, 1988) were calculated at each time point, defined as the adjusted mean difference between groups divided by the residual SD from the model (Feingold, 2009). R code for one of the outcome analyses is provided as supplementary file F. Effect sizes were interpreted as small (0.2), medium (0.5), or large ( $\geq 0.8$ ). All data cleaning were conducted using STATA software (Version 18 MP), and all descriptive and analytical statistics were conducted using R-programming language in the Google Colab platform.

**3. Results**

**3.1. Participants**

Recruitment occurred between November 2023 and September 2024, with final follow-up data collected in January 2025. A total of 192

participants submitted an expression of interest, of whom 159 were able to be contacted and screened for eligibility. Ultimately 126 were enrolled and randomly assigned to either the CRAFT intervention ( $n = 64$ ) or Waitlist ( $n = 62$ ; see Fig. 1).

One hundred and eleven participants completed OM2 (intervention  $n = 64$ , waitlist  $n = 62$ ), with an overall retention rate of 88.1 % (intervention 87.50 %, waitlist 88.71 %). At OM3, 104 participants completed the assessment (intervention  $n = 55$ , waitlist  $n = 49$ ), with an

overall retention rate of 82.54 % (intervention 86 %, waitlist 79 %). The minimum number of sessions completed was 0, and the maximum 8. Ninety-three of the 126 (73.8 %) participants completed six or more sessions. Participants completed an average of 5.17 sessions, with 6 sessions constituting full program completion and an optional two additional sessions offered for follow-up.

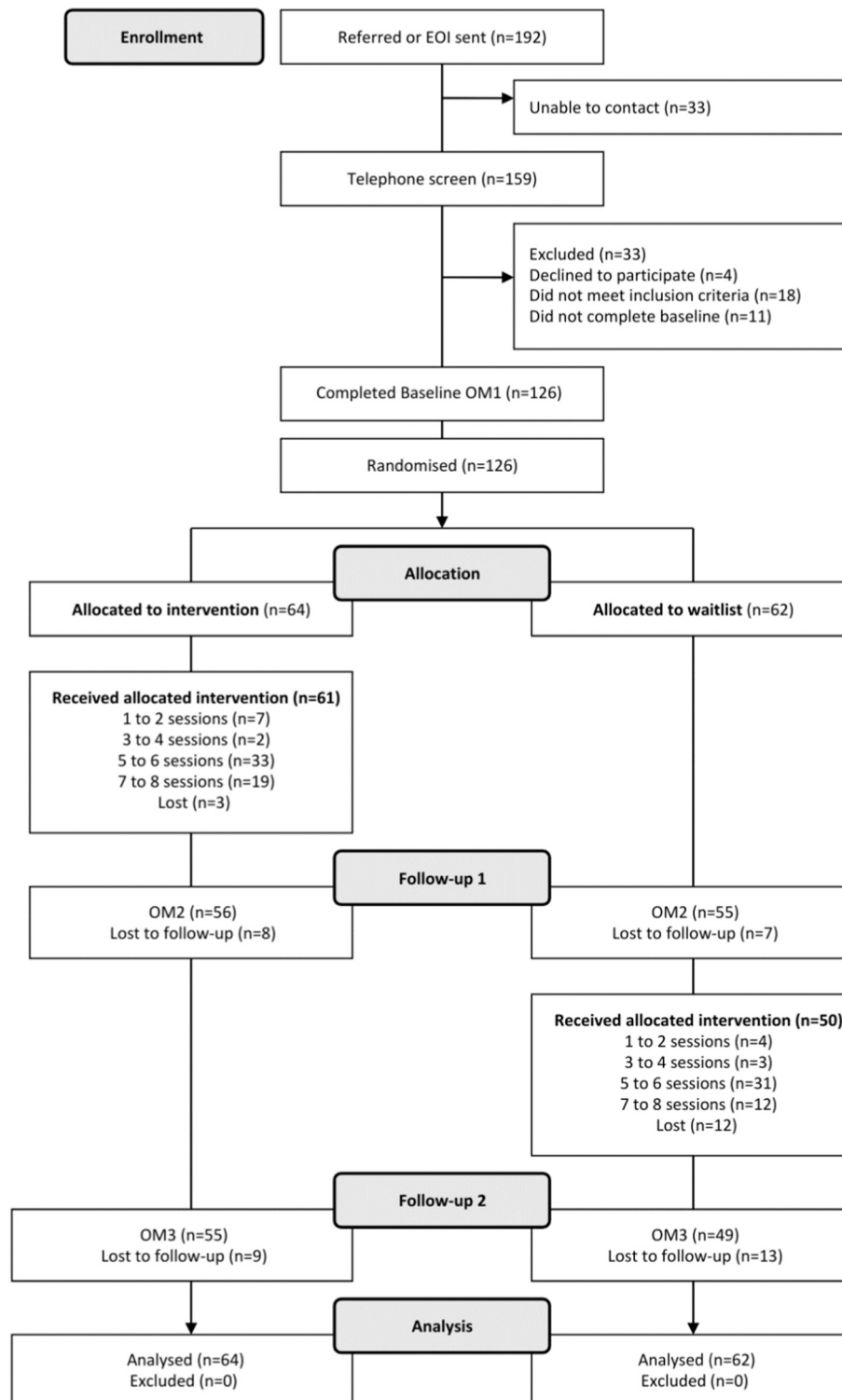


Fig. 1. Flowchart summarizing the RCT process for participants.

### 3.1.1. Characteristics of the participants

The intervention and waitlist groups were homogenous at baseline with respect to sex, age, ethnicity, marital status, education status, employment status, and relationship with the person with the substance problem. A series of *t*-tests were run to compare the intervention and waitlist groups; no significant differences were found between the groups.

At baseline, the mean age of participants was 51.08 years (*SD* = 10.88), with 51.44 years (*SD* = 11.36) in the CRAFT group and 50.71 years (*SD* = 10.45) in the Waitlist group. Females comprised 93.7 % of the CRAFT group and 90.3 % of the Waitlist group. The majority (86.4 %) were born in Australia (82.5 % in the CRAFT group and 90.3 % in the Waitlist group). Additionally, 87.9 % identified as White/Caucasian (88.9 % in the CRAFT group and 86.9 % in the Waitlist group; [Table 3](#)).

More than two-thirds (69.6 %) were married or in a relationship (62.5 % in the CRAFT group and 77.1 % in the Waitlist group). A total of 86.4 % had attained tertiary education (84.1 % in the CRAFT group and 88.7 % in the Waitlist group). Nearly half (48.4 %) of both groups were employed full-time. Regarding their relationship with the person experiencing substance use issues, 41.3 % were parents (mothers or fathers) of the IP, with 45.3 % in the CRAFT group and 37.1 % in the Waitlist

**Table 3**  
Baseline characteristics of study participants.

Variables	CRAFT intervention n (%)	Waitlist n (%)	Total n (%)
Age (mean [SD])	51.44 (11.36)	50.71 (10.45)	51.08 (10.88)
Gender			
Males	3 (4.7)	5 (8.1)	8 (6.35)
Females	60 (93.7)	56 (90.3)	116 (92.06)
Others	1 (1.6)	1 (1.6)	2 (1.59)
Country born			
Australia	52 (82.5)	56 (90.3)	108 (86.4)
Not Australia	11 (17.5)	6 (9.7)	17 (13.6)
Ethnicity			
First Nations Australians	2 (3.2)	5 (8.2)	7 (5.65)
Pacific Islander	0 (0)	1 (1.6)	1 (0.81)
White/Caucasian	56 (88.9)	53 (86.9)	109 (87.9)
Multiple ethnicity	5 (7.94)	1 (1.6)	6 (4.84)
Prefer not to say	0 (0)	1 (1.6)	1 (0.81)
Marital status			
Never married	7 (10.9)	6 (9.8)	13 (10.4)
Married/in relationship	40 (62.5)	47 (77.1)	87 (69.6)
Formerly married	16 (25)	7 (11.5)	23 (18.4)
Other	1 (1.6)	1 (1.6)	2 (1.6)
Education status			
Did not complete high school	2 (3.2)	2 (3.2)	4 (3.2)
Completed high school	8 (12.7)	5 (8.1)	13 (10.4)
Tertiary education	53 (84.1)	55 (88.7)	108 (86.4)
Employment status			
Full time	31 (48.4)	30 (48.4)	61 (48.41)
Part time	20 (31.3)	26 (41.9)	46 (36.51)
Not working	4 (6.3)	0 (0)	4 (3.17)
Unemployed and looking for work	0 (0)	1 (1.6)	1 (0.79)
Other	8 (12.5)	5 (8.1)	13 (10.32)
Prefer not to say	1 (1.6)	0 (0)	1 (0.79)
CSOs relationship with IP			
Partner/spouse	17 (26.6)	22 (35.5)	39 (30.95)
Mother/Father	29 (45.3)	23 (37.1)	52 (41.27)
Child/son/daughter	9 (14.1)	7 (11.3)	16 (12.7)
Sister/brother	4 (6.25)	6 (9.7)	10 (7.94)
Aunt/uncle	2 (3.1)	0 (0)	2 (1.59)
Friend/other	2 (3.1)	4 (6.5)	6 (4.76)
Prefer not to say	1 (1.6)	0 (0)	1 (0.79)
Gender of IP			
Male	40 (62.5)	48 (77.4)	88 (69.84)
Female	21 (32.8)	13 (21)	34 (26.98)
Other	2 (3.1)	1 (1.6)	3 (2.38)
Prefer not to say	1 (1.6)	0 (0)	1 (0.79)

group ([Table 3](#)).

### 3.1.2. Impacts of CRAFT intervention on mental health outcomes

The regression analysis assessing the impact of the CRAFT intervention on mental health outcomes revealed a significant decrease in depression, and significant increase in life satisfaction and problem-focused coping at six weeks compared to the waitlist group. However, no significant differences were observed between the two groups in anxiety, stress, emotion-focused coping, avoidance coping, or flourishing scores during the same period ([Table 4](#)).

At baseline, participants in both the intervention and waitlist group recorded depression scores within the extremely severe range. Between OM1 and OM2, mean depression scores decreased in both the intervention and waitlist groups. However, the intervention group showed a significantly greater reduction in depression compared to the waitlist group, moving from the extremely severe to the moderate range, with an adjusted mean difference of  $-2.71$  (95 % CI:  $-5.36, -0.06$ , Cohen's  $d = -0.58$ ,  $p = 0.045$ ). After the waitlist group received treatment, their scores similarly decreased to fall within the moderate range, while the intervention group showed a slight increase in depression scores at OM3 from their OM2 values. However, by OM3, the difference between the intervention and waitlist groups was no longer significant, indicating that improvement in symptoms remained stable six weeks post-program completion (see [Fig. 2](#)).

At baseline, participants in both the intervention and waitlist groups recorded life satisfaction scores in the slightly dissatisfied range. While both groups saw an increase in life satisfaction between OM1 and OM2, the intervention group exhibited a significantly greater improvement in life satisfaction compared to the control group, with the average score shifting into the neutral range for the intervention group (adjusted mean difference =  $1.85$ ; 95 % CI:  $0.21, 3.50$ , Cohen's  $d = 0.51$ ,  $p = 0.011$ ). After receiving the intervention, the waitlist group saw further improvements in life satisfaction from OM2 to OM3, reaching levels comparable to the intervention group. The intervention group also continued to see small improvements at OM3. By OM3, there were no significant differences between the groups, with both groups reporting scores in the 'slightly satisfied' range, suggesting that improvements in the intervention group were sustained six weeks post program completion (see [Fig. 2](#)).

Additionally, the intervention group demonstrated a significantly greater increase in problem-focused coping from baseline to OM2 compared to the Waitlist group, who exhibited a slight decline in problem-focused coping during this period. This result indicates an increase in use of problem-focused coping after undergoing CRAFT (adjusted mean difference =  $2.94$ ; 95 % CI:  $1.22, 4.51$ , Cohen's  $d = 0.89$ ,  $p < 0.001$ ). However, the increased use of problem-focused coping in the intervention group was not maintained at the second follow-up, where levels of problem-focused coping reduced to below their baseline level. The waitlist group similarly exhibited an increase in problem focused coping following their receipt of the intervention (i.e., between OM2 and OM3), however there was no significant difference between the intervention and waitlist group at OM3 (see [Fig. 3](#)).

No significant group differences were found over time for anxiety, stress, emotion-focused coping, avoidant coping, or social-psychological well-being. Anxiety and stress scores decreased over time for both groups. Initially, both the intervention and waitlist groups recorded anxiety scores within the severe range. Anxiety scores in the intervention group dropped to the moderate range post-intervention (OM2) and remained stable at follow-up (OM3). The waitlist group demonstrated reductions in anxiety from baseline to OM2 while awaiting the intervention. Following the intervention, they exhibited further reductions in anxiety from OM2 to OM3, indicating continued improvement after receiving the intervention. By the final follow-up (OM3), the waitlist group's anxiety levels had also fallen to the moderate range, aligning with the intervention group's levels after they completed the intervention.

**Table 4**  
The impact of craft intervention on mental health outcomes.

	CRAFT intervention, <i>M (SD)</i>	Waitlist <i>M (SD)</i>	Adjusted mean difference (95 % CI)	Standard effect sizes Cohen's <i>d</i>
DASS depression score				
OM1	13.28 (10.01); <i>n</i> = 61	14.00 (10.46); <i>n</i> = 61		
OM2	9.33 (7.57); <i>n</i> = 54	11.82 (8.66); <i>n</i> = 55	<b>-2.71 (-5.36, -0.06)*</b>	<b>-0.58 (-1.15, -0.001)*</b>
OM3	9.77 (8.69); <i>n</i> = 53	9.24 (8.21); <i>n</i> = 45	1.60 (-1.14, 4.35)	0.34 (-0.26, 0.94)
DASS anxiety score				
OM1	8.59 (7.89); <i>n</i> = 61	8.93 (7.03); <i>n</i> = 62		
OM2	6.07 (6.11); <i>n</i> = 54	7.67 (6.27); <i>n</i> = 55	-1.76 (-3.68, 0.16)	-0.43 (-0.90, 0.04)
OM3	6.07 (7.19); <i>n</i> = 53	5.09 (5.21); <i>n</i> = 46	1.18 (-0.81, 3.17)	0.29 (-0.20, 0.78)
DASS stress score				
OM1	17.44 (8.49); <i>n</i> = 61	18.29 (8.48); <i>n</i> = 62		
OM2	14.00 (7.07); <i>n</i> = 54	16.04 (7.31); <i>n</i> = 55	-2.05 (-4.64, 0.53)	-0.41 (-0.93, 0.11)
OM3	13.13 (8.50); <i>n</i> = 53	14.13 (8.59); <i>n</i> = 46	-0.52 (-3.19, 2.15)	-0.10 (-0.64, 0.43)
Life satisfaction				
OM1	18.75 (6.54); <i>n</i> = 63	19.44 (7.15); <i>n</i> = 61		
OM2	20.98 (6.15); <i>n</i> = 55	20.15 (6.79); <i>n</i> = 55	<b>1.85 (0.21, 3.50)*</b>	<b>0.51 (0.06, 0.95)*</b>
OM3	21.37 (6.68); <i>n</i> = 54	22.21 (6.47); <i>n</i> = 48	0.07 (-1.63, 1.78)	0.02 (-0.44, 0.49)
Problem focused coping				
OM1	20.74 (4.58); <i>n</i> = 63	20.08 (4.63); <i>n</i> = 61		
OM2	22.71 (5.48); <i>n</i> = 56	19.33 (5.86); <i>n</i> = 55	<b>2.94 (1.22, 4.67)**</b>	<b>0.89 (0.37, 1.40)**</b>
OM3	20.07 (5.22); <i>n</i> = 54	21.44 (5.25); <i>n</i> = 48	-1.59 (-3.38, 0.19)	-0.48 (-1.01, 0.06)
Emotion focused coping				
OM1	25.95 (4.72); <i>n</i> = 63	25.50 (5.19); <i>n</i> = 60		
OM2	26.00 (5.39); <i>n</i> = 56	24.55 (5.80); <i>n</i> = 55	1.20 (-0.16, 2.56)	0.46 (-0.06, 0.98)
OM3	25.37 (5.17); <i>n</i> = 54	24.50 (5.15); <i>n</i> = 48	0.91 (-0.49, 2.32)	0.35 (-0.19, 0.89)
Avoidance coping				
OM1	14.76 (3.21); <i>n</i> = 63	14.44 (3.62); <i>n</i> = 61		
OM2	13.04 (2.86); <i>n</i> = 56	13.82 (3.72); <i>n</i> = 55	-0.72(-1.79, 0.24)	-0.33 (-0.76, 0.10)
OM3	13.41 (3.07); <i>n</i> = 54	13.19 (2.83); <i>n</i> = 48	0.42 (-0.64, 1.48)	0.18 (-0.27, 0.63)
Flourishing				
OM1	42.73 (7.61); <i>n</i> = 63	42.55 (8.98); <i>n</i> = 62		
OM2	45.36 (5.76); <i>n</i> = 56	43.31 (7.72); <i>n</i> = 55	1.91 (-0.85, 4.67)	0.42 (-0.19, 1.03)
OM3	43.15 (8.96); <i>n</i> = 54	45.39 (6.00); <i>n</i> = 49	-2.32 (-5.15, 0.51)	-0.51 (-1.14, 0.11)

Note. Statistically significant adjusted mean differences (95 % CI excluding zero) are shown in **bold**.

\*  $p < 0.05$ .

\*\*  $p < 0.001$ .

Both groups showed a reduction in stress across all three time points. Initially, stress levels for both groups were in the extremely severe range. By the first follow-up (OM2), scores had decreased to the severe range for both groups and continued to decline further by OM3, although they remained in the severe range (see Fig. 2).

Emotion-focused coping saw minimal change in both groups across all time points. Avoidant coping decreased following receipt of the intervention in both groups (i.e., OM2 for the intervention group and OM3 for the waitlist group; see Fig. 3). Finally, social-psychological well-being (flourishing scores) increased in both groups following receipt of the intervention. The intervention group exhibited a marked decrease in social-psychological well-being from OM2 to OM3, suggesting that immediate improvements did not persist at 6-week follow-up (see Fig. 3).

## 4. Discussion

### 4.1. Main findings

To our knowledge, this is the first study to evaluate the effectiveness of an online practitioner delivery of CRAFT on mental health outcomes for rural Australians. At baseline, CSOs reported elevated levels of stress, depression, and anxiety, and low levels of life satisfaction. Following six online practitioner-delivered CRAFT sessions, participants reported a significant decrease in depression, and a significant increase in life satisfaction and problem-focused coping. These improvements were sustained at six-week follow-up, with no significant difference between intervention and waitlist groups after both had received the program. These results highlight the effectiveness of online practitioner-delivered CRAFT in improving and maintaining psychological well-being among rural Australian CSOs.

Consistent with previous research, this study found that CSOs affected by a loved one's substance use experience high levels of stress, depression, and anxiety, and low levels of life satisfaction (Gandhi et al., 2017; Gohil et al., 2016). These findings underscore the need for targeted interventions to support CSOs' mental health. Notably, the results from this study indicate that online therapist-led interventions are well-positioned to meet this need. Similar to previous online CRAFT trials that relied solely on videos and reading materials (Eék et al., 2020; Siljeholm et al., 2022), this study indicated that the reading materials received by the waitlist participants were insufficient to improve CSO psychological health. Instead, a therapist-led intervention was necessary to produce meaningful improvements.

While CRAFT has been shown to effectively improve the psychological well-being of CSOs (Cong et al., 2021; Kozusznik et al., 2020; Yıldız et al., 2017), previous research has primarily been conducted in the USA and Europe. This study extends the evidence base by demonstrating CRAFT as an effective support intervention for rural Australians. These findings substantiate the applicability of CRAFT in the Australian context, contributing to a broader understanding of its potential effectiveness beyond the USA and Europe. By demonstrating the intervention's positive impact in the rural Australian setting, the study highlights CRAFT's potential for addressing the unique challenges faced by CSOs in diverse cultural and geographical contexts. It further suggests that online practitioner-delivered CRAFT could be a valuable program in global regions where access to traditional face-to-face services is limited or where rural and remote communities face distinct barriers to support.

Online interventions for substance use have been shown to reduce psychological distress at levels that are comparable to face-to-face intervention groups (Gigantesco et al., 2019; Koivumaa-Honkanen et al., 2004). Previous studies examining CRAFT in an online automated self-guided format have generally shown poorer outcomes compared to

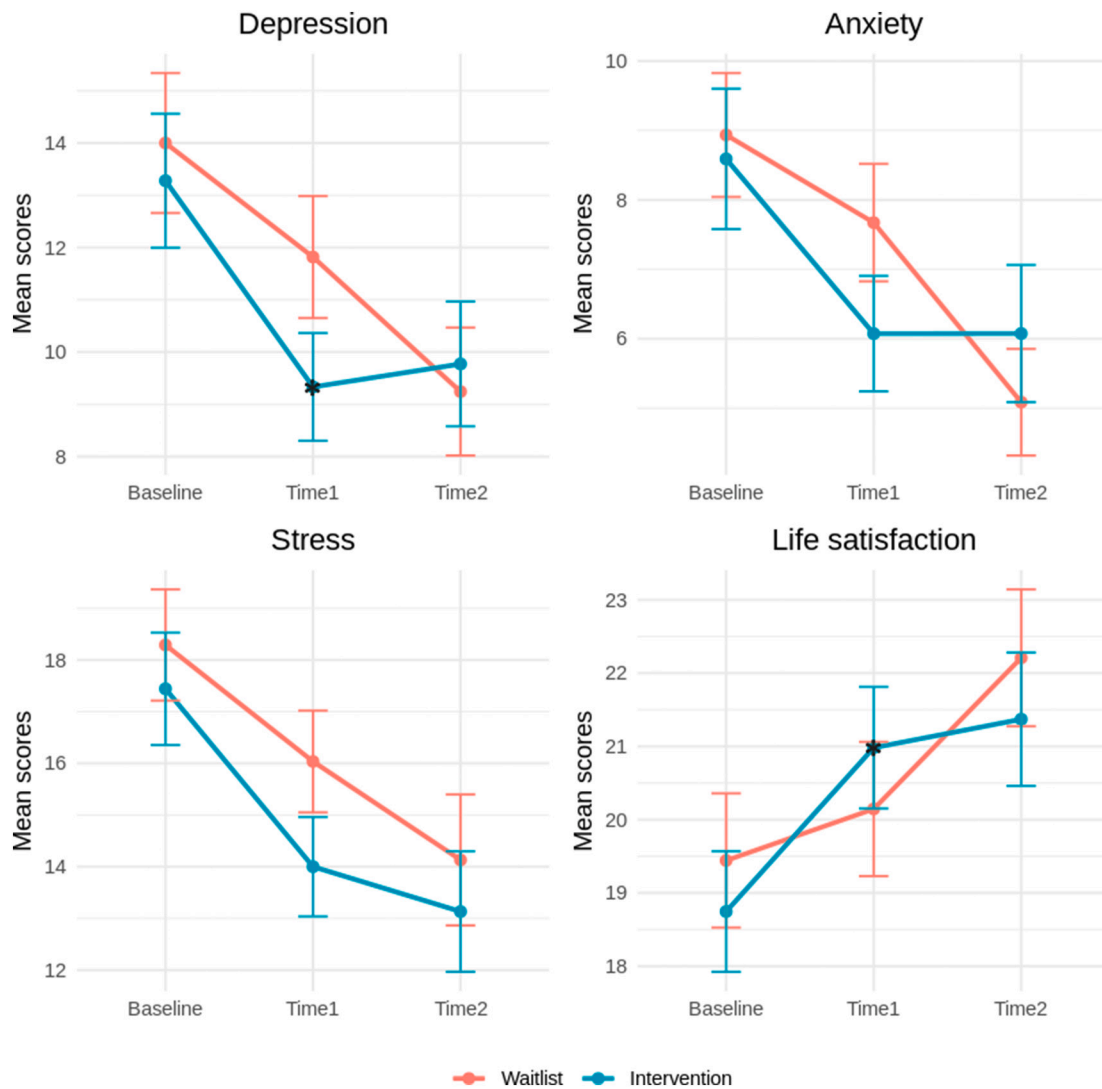


Fig. 2. Changes in depression, anxiety, stress and life satisfaction scores over time. \* Statistically significant adjusted mean differences.

CRAFT delivered face-to-face. However, those studies were limited by mode of delivery, using self-directed delivery methods rather than interactive, practitioner-led sessions (Eék et al., 2020; Siljeholm et al., 2022). The current study contributes to the emerging evidence (McCarthy et al., 2022) that the provision of CRAFT in a practitioner-facilitated online capacity is an effective and acceptable alternative to in-person delivery. The positive outcomes observed in mental health outcomes in the current study underscore the potential of online practitioner-delivered CRAFT interventions to foster significant improvements in overall psychological well-being. These promising results highlight the importance of exploring the underlying mechanisms that drive these improvements.

The observed improvements across depression, life satisfaction and problem-focused coping may reflect broader psychological changes. Specifically, improvements in problem-focused coping could have contributed to reduced depressive symptoms, which in turn may have enhanced overall life satisfaction. Previous research has shown negative correlations between problem-focused coping style and depressive symptoms (Bischof et al., 2016; Eék et al., 2020; Meyers et al., 2002; Miller et al., 1999), and negative correlations between depression and life satisfaction (Fitzsimmons-Craft et al., 2020; Frueh et al., 2005). Together, these patterns suggest that strengthening adaptive coping strategies may play a key role in improving mental health and subjective well-being among CSOs. Future research could explore the causal

relationships between coping strategies, depression, and life satisfaction in CSOs, as well as the long-term impact of interventions like CRAFT on these interconnected outcomes.

#### 4.2. Study limitations

While this RCT provides robust evidence and valuable insights, it is important to consider certain limitations to fully contextualize the study's findings. Recruitment relied on Facebook and Instagram, limiting the sample to active users of these platforms. Females comprised 92.06 % of the current study's sample. Although Facebook and Instagram have a relatively balanced gender distribution globally (Statistica, 2025), the overrepresentation of females in our sample may indicate a potential limitation in recruitment. Alternatively, the gender imbalance may partly reflect the reality that women are more often the primary support person for individuals experiencing substance use issues, as corroborated by global and Australian data (Akpınar et al., 2011; Australian Bureau of Statistics, 2019; Orford et al., 2005; Sharma et al., 2016; Yee & Schulz, 2000). However, this finding also underscores the need for further research to better understand the experiences and perspectives of male support persons, whose voices remain underrepresented in this study.

Furthermore, the sample was not representative of employment levels or education levels of the rural Australian population. Participants

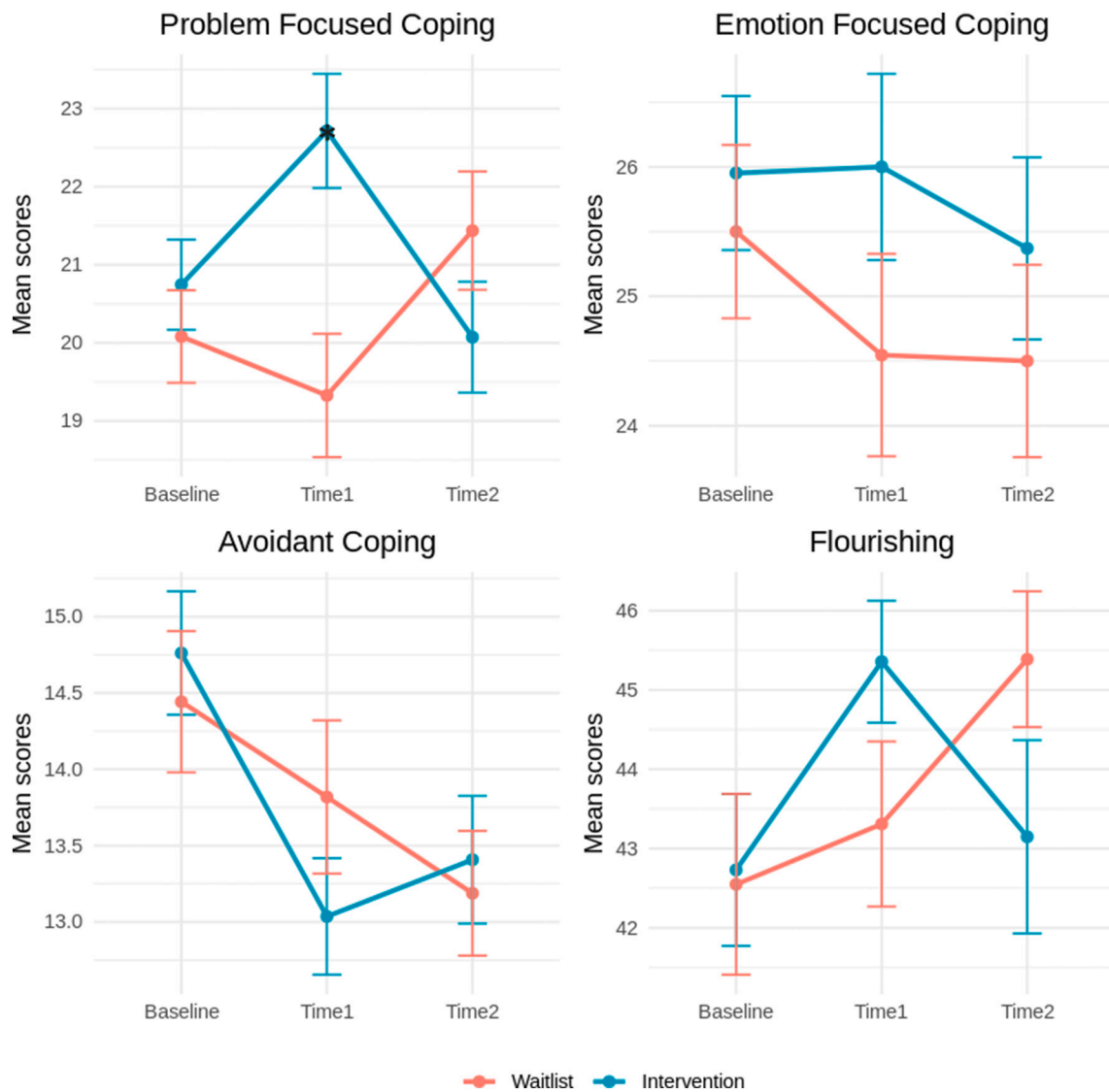


Fig. 3. Changes in problem focused coping, emotion focused coping, avoidant coping and flourishing scores over time. \* Statistically significant adjusted mean differences.

were more likely to be employed (84.92 % vs 59.48 %; Australian Bureau of Statistics, 2025a) and highly educated, with 86.4 % having completed tertiary education compared to the national average of 47.1 % (Australian Bureau of Statistics, 2025b). Further research should aim to diversify recruitment to improve generalizability, for example, family members of people entering substance treatment could be offered CRAFT routinely and the outcomes evaluated.

One implementation challenge was the inconsistency in the intervals between participant's sessions, which may have impacted the effectiveness of the intervention. While some participants attended sessions weekly, others followed a fortnightly schedule or attended as availability allowed, leading to substantial variation in program duration. Most participants completed the program within ten weeks, however three required five, eight, and nine months, respectively. Importantly, both the waitlist and intervention groups were supported by the same practitioners, which helped minimise any potential differences between the groups related to practitioner rapport-building, skill, or variations in session scheduling.

The short follow-up period of six weeks is a notable limitation, as it restricts the ability to evaluate whether observed effects are maintained over time. Previous research has shown that improvements in CSO wellbeing following CRAFT can be sustained at longer follow-up periods

(Bischof et al., 2016). Future research could incorporate extended follow-up assessments at three, six, and 12 months post-intervention to track the long-term durability of outcomes and determine whether additional support is required.

Historically, CRAFT studies have emphasised whether the IP accessed treatment as a primary outcome (Bischof et al., 2016; Roozen et al., 2010). This study does not report on that outcome, as it was designed to evaluate the effectiveness of online practitioner-delivered CRAFT for CSOs. While treatment engagement by the IP remains an important area of investigation, the present analysis highlights the benefits experienced by CSOs themselves, demonstrating improvements in their wellbeing that are independent of whether the IP entered treatment.

#### 4.3. Future research directions

Future research could investigate the generalisability of these results to other rural settings globally, and in urban Australia. Research could explore the effectiveness of online practitioner-delivered CRAFT in rural areas world-wide, contributing to a broader understanding of applicability.

Exploring the cost-benefit of delivering CRAFT in rural settings

would provide valuable insights into its economic viability and support broader implementation. Such analysis could help assess whether the psychological benefits to CSOs demonstrated in this study translate into broader economic benefits.

While RCTs provide valuable evidence on the effectiveness of interventions, they do not capture participant experiences. This study highlights CRAFT's impact on mental health but lacks insight into which aspects of the CRAFT program participants perceived as challenging or beneficial. The researchers are currently in the process of analysing qualitative data from the participants, exploring participant perspectives to better understand the program's impact and areas for improvement. The findings of which will be reported in a future publication.

## 5. Conclusion

Online delivery of CRAFT to rural Australians was effective in reducing symptoms of depression, enhancing life satisfaction, and increasing the use of problem-focused coping strategies, with improvements sustained at the second follow-up after both groups had completed the program. The findings from this study contribute to the global evidence base for CRAFT and demonstrate that an online practitioner-led format is an effective approach for supporting CSOs well-being.

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.josat.2025.209867>.

## Clinical trial registration details

Charles Sturt University Human Research Ethics Committee (approval number H23769), registered with the Australian New Zealand Clinical Trials Registry (ANZCTR, ACTRN12623000796684).

## Preprint

A version of the following article can be found as a pre-print at [Online Community Reinforcement and Family Training \(CRAFT\) for Concerned Significant Others in Rural Australia: A Randomized Controlled Trial - Article \(Preprint v1\) by Heidi Gray et al. | Qeios](#).

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## CRediT authorship contribution statement

**Heidi Gray:** Writing – review & editing, Writing – original draft, Visualization, Project administration, Methodology, Investigation, Formal analysis, Data curation. **Nicola Ivory:** Writing – review & editing, Writing – original draft, Supervision, Formal analysis. **Nicole Snowdon:** Writing – review & editing, Writing – original draft, Supervision, Project administration, Investigation, Data curation. **Kedir Y. Ahmed:** Writing – review & editing, Writing – original draft, Visualization, Formal analysis. **Matt Thomas:** Writing – review & editing, Supervision. **Julaine Allan:** Writing – review & editing, Writing – original draft, Supervision, Project administration, Methodology, Funding acquisition, Formal analysis, Conceptualization.

## Data availability

The dataset presented in this article is not readily available as it contains information that could compromise the privacy of research participants. Requests to access de-identified datasets should be directed to the corresponding author and will be considered on a case-by-case basis.

## References

- Akpinar, B., Küçükgüçlü, Ö., & Yener, G. (2011). Effects of gender on burden among caregivers of Alzheimer's patients. *Journal of Nursing Scholarship*, 43(3), 248–254. <https://doi.org/10.1111/j.1547-5069.2011.01402.x>
- Alcohol and Drug Foundation. (2024). Help-seeking by family and friends of people who use alcohol and drugs. [https://cdn.adf.org.au/media/documents/IS\\_Survey\\_Report\\_2024\\_Help-Seeking\\_by\\_Family\\_and\\_Friends.pdf](https://cdn.adf.org.au/media/documents/IS_Survey_Report_2024_Help-Seeking_by_Family_and_Friends.pdf).
- Allan, J., & Snowdon, N. (n.d.). Family empowerment program brief facilitator guide. Rural Health Research Institute - Charles Sturt University.
- Allan, J., Snowdon, N., Ahmed, K., Thapa, S., Ivory, N., Gray, H., ... Farnbach, S. (2023). A randomized wait list control study of 6 sessions of on-line community reinforcement and family training (CRAFT) on wellbeing of family members of people with substance dependence and mental illness: Protocol. In *Australian New Zealand clinical trials registry*. Available from: <https://www.anzctr.org.au/Trial/Registration/TrialReview.aspx?id=386124&isReview=true>.
- Allan, J., Snowdon, N., Ahmed, K., Thapa, S., Ivory, N., Shakeshaft, A., & Farnbach, S. (2023). A randomized wait list control study of 6 sessions of On-line Community Reinforcement and Family Training (CRAFT) on wellbeing of family members of people with substance dependence and mental illness: Protocol. *Australian New Zealand Clinical Trials Registry*. Available from: [https://view.officeapps.live.com/op/view.aspx?src=https%3A%2Fwww.anzctr.org.au%2FAnzctrAttachments%2FSteps1and12%2F386124-\(Uploaded-12-07-2023-12-08-38\)-Study-related%2520document.docx&wdOrigin=BROWSELINK](https://view.officeapps.live.com/op/view.aspx?src=https%3A%2Fwww.anzctr.org.au%2FAnzctrAttachments%2FSteps1and12%2F386124-(Uploaded-12-07-2023-12-08-38)-Study-related%2520document.docx&wdOrigin=BROWSELINK).
- Allan, J., Snowdon, N., Thapa, S., & Ahmed, K. Y. (2024). Study protocol for the family empowerment program: A randomized waitlist-controlled trial to evaluate the effectiveness of online community reinforcement and family training (CRAFT) on the wellbeing of family members with a relative experiencing substance dependence and mental illness. *BMC Psychiatry*, 24(1), 43. <https://doi.org/10.1186/s12888-023-05487-0>
- Archer, M., Harwood, H., Stevelink, S., Rafferty, L., & Greenberg, N. (2020). Community reinforcement and family training and rates of treatment entry: A systematic review. *Addiction*, 115(6), 1024–1037. <https://doi.org/10.1111/add.14901>
- Australian Bureau of Statistics. (2019). *Disability, ageing and carers, Australia: Summary of findings methodology*. 2018. Retrieved 09/04/2024 from <https://www.abs.gov.au/statistics/health/disability/disability-ageing-and-carers-australia-summary-findings/latest-release>.
- Australian Bureau of Statistics. (2025a). Labour force status and hours worked not stated by AGEP age and remoteness areas (national) (UR) [2021 census table builder]. Retrieved 1 April 2025 from <https://www.abs.gov.au/statistics/microdata-tablebuilder/tablebuilder>.
- Australian Bureau of Statistics. (2025b). Level of highest educational attainment by AGEP age and remoteness area (national) (UR) [2021 census table builder]. Retrieved 1 April 2025 from <https://www.abs.gov.au/statistics/microdata-tablebuilder/tablebuilder>.
- Australian Institute of Health and Welfare. (2023a). Alcohol and other drug treatment services in Australia annual report. <https://www.aihw.gov.au/reports/alcohol-other-drug-treatment-services/alcohol-other-drug-treatment-services-australia/content/s/treatment-types>.
- Australian Institute of Health and Welfare. (2023b). Rural and remote health. <https://www.aihw.gov.au/reports/rural-remote-australians/rural-and-remote-health>.
- Bigorra, J., & Baños, J. E. (1990). Weight of financial reward in the decision by medical students and experienced healthy volunteers to participate in clinical trials. *European Journal of Clinical Pharmacology*, 38(5), 443–446. <https://doi.org/10.1007/bf02336681>
- Bischof, G., Iwen, J., Freyer-Adam, J., & Rumpf, H.-J. (2016). Efficacy of the community reinforcement and family training for concerned significant others of treatment-refusing individuals with alcohol dependence: A randomized controlled trial. *Drug and Alcohol Dependence*, 163, 179–185. <https://doi.org/10.1016/j.drugalcdep.2016.04.015>
- Carver, C. S. (1997). You want to measure coping but your protocol's too long: Consider the brief COPE. *International Journal of Behavioral Medicine*, 4(1), 92–100. [https://doi.org/10.1207/s15327558ijbm0401\\_6](https://doi.org/10.1207/s15327558ijbm0401_6)
- Cassidy, A., & Poon, A. W. C. (2019). A scoping review of family-based interventions in drug and alcohol services: Implications for social work practice. *Journal of Social Work Practice in the Addictions*, 19(4), 345–367. <https://doi.org/10.1080/1533256X.2019.1659068>
- Center for Motivation and Change. (2022). *CMC: center for motivation and change*. Retrieved 22/07/2024 from <https://motivationandchange.com/>.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). L. Erlbaum Associates. <https://doi.org/10.4324/9780203771587>
- Cong, C. W., Ling, W. S., & Aun, T. S. (2021). Problem-focused coping and depression among adolescents: Mediating effect of self-esteem. *Current Psychology (New Brunswick, N. J.)*, 40(11), 5587–5594. <https://doi.org/10.1007/s12144-019-00522-4>
- Copello, A. G., Velleman, R. D. B., & Templeton, L. J. (2005). Family interventions in the treatment of alcohol and drug problems. *Drug and Alcohol Review*, 24(4), 369–385. <https://doi.org/10.1080/09595230500302356>
- DeDios-Stern, S., Lee, E.-J., & Nitsch, K. (2017). Clinical utility and psychometric properties of the brief: Coping with problems experienced with caregivers. *Rehabilitation Psychology*, 62(4), 609–610. <https://doi.org/10.1037/rep0000188>
- Department of Health and Aged Care. (2023). Modified monash model. Retrieved 04/10/2024 from <https://www.health.gov.au/topics/rural-health-workforce/classifications/mmm>.

- Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment*, 49(1), 71–75. [https://doi.org/10.1207/s15327752jpa4901\\_13](https://doi.org/10.1207/s15327752jpa4901_13)
- Diener, E., Wirtz, D., Tov, W., Kim-Prieto, C., Choi, D.-w., Oishi, S., & Biswas-Diener, R. (2010). New well-being measures: Short scales to assess flourishing and positive and negative feelings. *Social Indicators Research*, 97(2), 143–156. <https://doi.org/10.1007/s11205-009-9493-y>
- Dilkes-Frayne, E., Savic, M., Carter, A., Kokanović, R., & Lubman, D. I. (2019). Going online: The affordances of online counseling for families affected by alcohol and other drug issues. *Qualitative Health Research*, 29(14), 2010–2022. <https://doi.org/10.1177/1049732319838231>
- Eék, N., Romberg, K., Siljeholm, O., Johansson, M., Andreasson, S., Lundgren, T., Fahlke, C., Ingesson, S., Bäckman, L., & Hammarberg, A. (2020). Efficacy of an internet-based community reinforcement and family training program to increase treatment engagement for AUD and to improve psychiatric health for CSOs: A randomized controlled trial. *Alcohol and Alcoholism (Oxford)*, 55(2), 187–195. <https://doi.org/10.1093/ALCALC/AGZ095>
- European Monitoring Centre for Drugs and Drug Addiction. (2022). Families of people who use drugs: health and social responses. Retrieved 13/05/2024 from [https://www.emcdda.europa.eu/publications/mini-guides/families-health-and-social-responses\\_en#section2](https://www.emcdda.europa.eu/publications/mini-guides/families-health-and-social-responses_en#section2).
- Fals-Stewart, W., Lam, W. K. K., McDaniel, S. H., & Campell, T. L. (2008). Brief behavioral couples therapy for drug abuse: A randomized clinical trial examining clinical efficacy and cost-effectiveness. *Families, Systems & Health*, 26(4), 377–392. <https://doi.org/10.1037/1091-7527.26.4.377>
- Feingold, A. (2009). Effect sizes for growth-modeling analysis for controlled clinical trials in the same metric as for classical analysis. *Psychological Methods*, 14(1), 43–53. <https://doi.org/10.1037/a0014699>
- Fitzsimmons-Craft, E. E., Taylor, C. B., Graham, A. K., Sadeh-Sharvit, S., Balantekin, K. N., Eichen, D. M., ... Wilfley, D. E. (2020). Effectiveness of a digital cognitive behavior therapy-guided self-help intervention for eating disorders in college women: A cluster randomized clinical trial. *JAMA Network Open*, 3(8), e2015633. <https://doi.org/10.1001/jamanetworkopen.2020.15633>
- Frueh, B. C., Henderson, S., & Myrick, H. (2005). Telehealth service delivery for persons with alcoholism. *Journal of Telemedicine and Telecare*, 11(7), 372–375. <https://ezpr.oxy.csu.edu.au/login?url=https://www.proquest.com/scholarly-journals/telehealth-service-delivery-persons-with/docview/210703282/se-2?accountid=10344>
- Gandhi, R., Suthar, M., Pal, S., & Rathod, A. (2017). Anxiety and depression in spouses of males diagnosed with alcohol dependence: A comparative study. *Archives of Psychiatry and Psychotherapy*, 19(4), 51–56. <https://doi.org/10.12740/APP/79459>
- Gigantesco, A., Fagnani, C., Toccaceli, V., Stazi, M. A., Lucidi, F., Violani, C., & Picardi, A. (2019). The relationship between satisfaction with life and depression symptoms by gender. *Frontiers in Psychiatry*, 10, 419. <https://doi.org/10.3389/fpsyg.2019.00419>
- Giroux, I., Goulet, A., Mercier, J., Jacques, C., & Bouchard, S. (2017). Online and mobile interventions for problem gambling, alcohol, and drugs: A systematic review. *Frontiers in Psychology*, 8, 954. <https://doi.org/10.3389/fpsyg.2017.00954>
- Gloster, A. T., Rhoades, H. M., Novy, D., Klotsche, J., Senior, A., Kunik, M., ... Stanley, M. A. (2008). Psychometric properties of the depression anxiety and stress Scale-21 in older primary care patients. *Journal of Affective Disorders*, 110(3), 248–259. <https://doi.org/10.1016/j.jad.2008.01.023>
- Gohil, J., Patel, M., & Samani, M. (2016). Quality of life and psychiatric morbidity in caregivers of alcohol dependence patients. *IOSR Journal of Dental and Medical Sciences*, 15, 98–101. <https://doi.org/10.9790/0853-15080198101>
- Health New Zealand Te Whatu Ora. (2023). Te awhina i nga whanau me nga hoa: Help for whanau and friends. Retrieved 13/05/24 from <https://info.health.nz/services-support/alcohol-and-drug-services/help-for-whanau-and-friends/>.
- Hellum, R., Bilberg, R., Bischof, G., & Nielsen, A. S. (2021). How concerned significant others experience community reinforcement and family training (CRAFT) – A qualitative study. *BMC Family Practice*, 22(1), 241. <https://doi.org/10.1186/s12875-021-01596-5>
- Hellum, R., Nielsen, A. S., Bischof, G., Andersen, K., Hesse, M., Ekstrøm, C. T., & Bilberg, R. (2019). Community reinforcement and family training (CRAFT) - design of a cluster randomized controlled trial comparing individual, group and self-help interventions. *BMC Public Health*, 19(1), 307–310. <https://doi.org/10.1186/s12889-019-6632-5>
- Henry, J. D., & Crawford, J. R. (2005). The short-form version of the depression anxiety stress scales (DASS-21): Construct validity and normative data in a large non-clinical sample. *British Journal of Clinical Psychology*, 44, 227–239. <https://doi.org/10.1348/014466505X29657>
- Koivumaa-Honkanen, H., Kaprio, J., Honkanen, R., Viinamäki, H., & Koskenvuo, M. (2004). Life satisfaction and depression in a 15-year follow-up of healthy adults. *Social Psychiatry and Psychiatric Epidemiology*, 39(12), 994–999. <https://doi.org/10.1007/s00127-004-0833-6>
- Kozusznik, M. W., Puig-Perez, S., Kozusznik, B., & Pulos, M. M. (2020). The relationship between coping strategies and sleep problems: The role of depressive symptoms. *Annals of Behavioral Medicine*, 55(3), 253–265. <https://doi.org/10.1093/abm/kaa048>
- Lander, L., Howsare, J., & Byrne, M. (2013). The impact of substance use disorders on families and children: From theory to practice. *Social Work in Public Health*, 28(3–4), 194–205. <https://doi.org/10.1080/19371918.2013.759005>
- Lawrinson, P., Copeland, J., & Indig, D. (2006). Regional differences in injecting practices and other substance use-related behaviour among entrants into opioid maintenance pharmacotherapy treatment in New South Wales, Australia. *Drug and Alcohol Dependence*, 82(suppl 1), S95–S102. [https://doi.org/10.1016/S0376-8716\(06\)80015-3](https://doi.org/10.1016/S0376-8716(06)80015-3)
- Lovibond, P. F. (1998). Long-term stability of depression, anxiety, and stress syndromes. *Journal of Abnormal Psychology* (1965), 107(3), 520–526. <https://doi.org/10.1037/0021-843X.107.3.520>
- Mardani, M., Alipour, F., Rafiey, H., Fallahi-Khosknab, M., & Arshi, M. (2023). Challenges in addiction-affected families: A systematic review of qualitative studies. *BMC Psychiatry*, 23(1), 439. <https://doi.org/10.1186/s12888-023-04927-1>
- Marshall, M. P. (2003). For better or for worse? The effects of alcohol use on marital functioning. *Clinical Psychology Review*, 23(7), 959–997. <https://doi.org/10.1016/j.cpr.2003.09.002>
- McCann, T. V., & Lubman, D. I. (2018). Help-seeking barriers and facilitators for affected family members of a relative with alcohol and other drug misuse: A qualitative study. *Journal of Substance Abuse Treatment*, 93, 7–14. <https://doi.org/10.1016/j.jsat.2018.07.005>
- McCarthy, J. M., Wood, A. J., Shinnors, M. G., Heinrich, H., Weiss, R. D., Mueser, K. T., ... Öngür, D. (2022). Pilot development and feasibility of telehealth community reinforcement and family training (CRAFT) for early psychosis and substance use. *Psychiatry Research*, 317, 114804. <https://doi.org/10.1016/j.psychres.2022.114804>
- Meyers, R. J., Miller, W. R., & Smith, J. E. (2001). Community reinforcement and family training (CRAFT). In R. J. Meyers, & W. R. Miller (Eds.), *A community reinforcement approach to addiction treatment* (pp. 147–160). Cambridge University Press.
- Meyers, R. J., Miller, W. R., Smith, J. E., & Tonigan, J. S. (2002). A randomized trial of two methods for engaging treatment-refusing drug users through concerned significant others. *Journal of Consulting and Clinical Psychology*, 70(5), 1182–1185. <https://doi.org/10.1037/0022-006X.70.5.1182>
- Miller, W. R., Meyers, R. J., & Tonigan, J. S. (1999). Engaging the unmotivated in treatment for alcohol problems: A comparison of three strategies for intervention through family members. *Journal of Consulting and Clinical Psychology*, 67(5), 688–697. <https://doi.org/10.1037/0022-006X.67.5.688>
- Monnat, S. M., & Rigg, K. K. (2016). Examining rural/urban differences in prescription opioid misuse among US adolescents. *The Journal of Rural Health*, 32(2), 204–218. <https://doi.org/10.1111/jrh.12141>
- Orford, J., Natera, G., Copello, A., Atkinson, C., Mora, J., Velleman, R., ... Walley, G. (2005). *Coping with alcohol and drug problems: The experiences of family members in three contrasting cultures* (1 ed.). Routledge. <https://doi.org/10.4324/9780203759608>
- Osilla, K. C., Manuel, J. K., Becker, K., Nameth, K., Burgette, L., Ober, A. J., ... Watkins, K. E. (2024). It takes a village: A pilot study of a group telehealth intervention for support persons affected by opioid use disorder. *Journal of substance use and addiction treatment*, 161, 209290. <https://doi.org/10.1016/j.josat.2024.209290>
- Pavot, W., & Diener, E. (1993). Review of the satisfaction with life scale. *Psychological Assessment*, 5(2), 164–172. <https://doi.org/10.1037/1040-3590.5.2.164>
- Pavot, W., & Diener, E. (2008). The satisfaction with life scale and the emerging construct of life satisfaction. *The Journal of Positive Psychology*, 3(2), 137–152. <https://doi.org/10.1080/17439760701756946>
- Richert, T., Svensson, B., & Johnson, B. (2021). Experiences of Swedish parents seeking social services support for their adult children with drug addiction. *Journal of the Society for Social Work and Research*, 12(4), 677–704. <https://doi.org/10.1086/712894>
- Robinson, K. A., Dinglas, V. D., Sukrithan, V., Yalamanchilli, R., Mendez-Tellez, P. A., Dennison-Himmelfarb, C., & Needham, D. M. (2015). Updated systematic review identifies substantial number of retention strategies: Using more strategies retains more study participants. *Journal of Clinical Epidemiology*, 68(12), 1481–1487. <https://doi.org/10.1016/j.jclinepi.2015.04.013>
- Roopen, H. G., Boulogne, J. J., van Tulder, M. W., van den Brink, W., De Jong, C. A. J., & Kerkhof, A. J. F. M. (2004). A systematic review of the effectiveness of the community reinforcement approach in alcohol, cocaine and opioid addiction. *Drug and Alcohol Dependence*, 74(1), 1–13. <https://doi.org/10.1016/j.drugalcdep.2003.12.006>
- Roopen, H. G., Bravo, A. J., Pilatti, A., Mezquita, L., & Vingerhoets, A. (2022). Cross-cultural examination of the community reinforcement approach happiness scale (CRA-HS): Testing measurement invariance in five countries. *Current Psychology (New Brunswick, N.J.)*, 41(6), 3842–3852. <https://doi.org/10.1007/s12144-020-00818-w>
- Roopen, H. G., De Waart, R., & Van Der Kroft, P. (2010). Community reinforcement and family training: An effective option to engage treatment-resistant substance-abusing individuals in treatment. *Addiction (Abingdon, England)*, 105(10), 1729–1738. <https://doi.org/10.1111/j.1360-0443.2010.03016.x>
- Roxburgh, A., Miller, P., & Dunn, M. (2013). Patterns of alcohol, tobacco and cannabis use and related harm in city, regional and remote areas of Australia. *International Journal of Drug Policy*, 24(5), 488–491. <https://doi.org/10.1016/j.drugpo.2013.02.001>
- Sharma, N., Chakrabarti, S., & Grover, S. (2016). Gender differences in caregiving among family - caregivers of people with mental illnesses. *World J Psychiatry*, 6(1), 7–17. <https://doi.org/10.5498/wjp.v6.i1.7>
- Siljeholm, O., Eckerström, J., Molander, O., Sundbye, J., & Hammarberg, A. (2024). 'Before, we ended up in conflicts, now we can provide support'—Experiences of community reinforcement and family training (CRAFT) for parents of young adults with hazardous substance use. *BMC Psychiatry*, 24(1). <https://doi.org/10.1186/s12888-024-05913-x>, 464–415.
- Siljeholm, O., Edvardsson, K., Bergström, M., & Hammarberg, A. (2024). Community reinforcement and family training versus counselling for parents of treatment-refusing young adults with hazardous substance use: A randomized controlled trial. *Addiction (Abingdon, England)*, 119(5), 915–927. <https://doi.org/10.1111/add.16429>

- Siljeholm, O., Lindner, P., Johansson, M., & Hammarberg, A. (2022). An online self-directed program combining community reinforcement approach and family training and parenting training for concerned significant others sharing a child with a person with problematic alcohol consumption: A randomized controlled trial. *Addiction Science & Clinical Practice*, 17(1). <https://doi.org/10.1186/s13722-022-00332-3>, 49–16.
- Smith, J. E., & Meyers, R. J. (2004). *Motivating substance abusers to enter treatment: Working with family members*. The Guilford Press. [https://books.google.com.au/books?hl=en&lr=&id=qR\\_8jr5-kt4C&oi=fnd&pg=PA1&ots=KOTXXojleV&sig=pKV-c7YnpgVYpjjPSX4kW8Oh2ls&redir\\_esc=y#v=onepage&q&f=false](https://books.google.com.au/books?hl=en&lr=&id=qR_8jr5-kt4C&oi=fnd&pg=PA1&ots=KOTXXojleV&sig=pKV-c7YnpgVYpjjPSX4kW8Oh2ls&redir_esc=y#v=onepage&q&f=false).
- Smith, J. E., Miller, W. R., & Meyers, R. J. (2023). *The CRAFT treatment manual for substance use problems: Working with family members*. The Guilford Press.
- Statistica. (2025). Gender distribution of active social media users worldwide as of January 2025, by platform. Retrieved 29/05/2025 from <https://www.statista.com/statistics/274828/gender-distribution-of-active-social-media-users-worldwide-by-platform/>.
- Substance Abuse and Mental Health Services Administration. (2023). Resources for families coping with mental and substance use disorders. Retrieved 13/5/24 from <https://www.samhsa.gov/families>.
- Thorn, H., & Olley, R. (2023). Barriers and facilitators to accessing medical services in rural and remote Australia: A systematic review. *Asia Pacific journal of health management*, 18(1), 20–29. <https://doi.org/10.24083/apjhm.v18i1.1755>
- White, A., Kavanagh, D., Stallman, H., Klein, B., Kay-Lambkin, F., Proudfoot, J., ... Young, R. (2010). Online alcohol interventions: A systematic review. *Journal of Medical Internet Research*, 12(5). <https://doi.org/10.2196/jmir.1479>. e62p.12-e62.
- Yee, J. L., & Schulz, R. (2000). Gender differences in psychiatric morbidity among family caregivers: A review and analysis. *Gerontologist*, 40(2), 147–164. <https://doi.org/10.1093/geront/40.2.147>
- Yıldız, M., Şahin, Ş., Batmaz, S., Songur, E., & Kutlutürk, F. (2017). The relationship between depression, anxiety, personality traits and coping strategies of patients with euthyroid Hashimoto's thyroiditis. *The European journal of psychiatry*, 31(3), 113–118. <https://doi.org/10.1016/j.ejpsy.2017.06.001>

## Glossary

**Concerned Significant Other (CSO):** Family members, partners, ex-partners, or friends of those with an alcohol and/or drug problem (Hellum et al., 2021):

Identified Person (IP):

The individual using substances, often reluctant to seek treatment for their substance use (Hellum et al., 2021):

Rural Australians:

The Modified Monash Model is used by the Department of Health and Aged Care to define whether a location is classified as metropolitan, rural, remote, or very remote (Department of Health and Aged Care, 2023). Categories range from MM1 (major city) to MM7 (very remote). For this project, rural Australians were considered anyone who lives in MM2 to MM7: