Self-Compassion Amongst Clients with Problematic Alcohol Use

**Michelle Brooks · Frances Kay-Lambkin ·
Jenny Bowman · Steven Childs**

Abstract Self-compassion is a topic of growing research interest and is represented by six facets including self-kindness, self-judgement, mindfulness, over-identification, common humanity and isolation. Recent research interest has begun to examine the use of self-focused compassion and mindfulness as a way of alleviating the distress associated with psychological disorders. Little research exists to examine the relationship between self-compassion, depression, anxiety and stress among individuals who are alcohol-dependent. The present study aimed to address this gap by examining whether high levels of self-compassion will be associated with lower levels of depression, anxiety and alcohol use at entry to treatment. We also examined whether clients whose self-compassion improved over time also reported improvement in depression, anxiety and alcohol use at follow-up. Participants in this study were clients of a publicly funded Drug and Alcohol Service, who completed a baseline and 15-week independent clinical assessment that corresponded with their entry into and exit from treatment with the Service. At baseline, study participants were significantly higher in depression, anxiety, stress, alcohol use, and lower in self-compassion than the general population. At 15 weeks follow-up, participants reported a significant increase in self-compassion, mindfulness, common humanity and self-kindness, and significant decreases in self-judgement, isolation and over-identification. This study provides important preliminary data on self-compassion among a group of people with alcohol dependence.

Keywords Mindfulness · Self-compassion · Depression · Anxiety · Alcohol dependence

Introduction

Alcohol is a depressant that acts as an inhibitor, reducing anxiety in low doses but resulting in death in extreme doses (ABS 2006), and it is the second largest cause of hospitalisations and drug-related deaths in Western societies (AIHW 2005). A clear progression from alcohol use to alcohol abuse and dependence can be seen in some individuals (Sartor et al. 2006). Alcohol use disorders (abuse/dependence) have also been associated with disabilities including depression, anxiety and cognitive problems (Samokhvalov et al. 2010)

In clinical settings, the co-morbidity of alcoholism and psychiatric disorders has been found to be particularly common (Almeida-Filho et al. 2007). In particular, numerous studies have found alcohol abuse is associated with psychological variables such as anxiety and depression (Suh et al. 2008; Sullivan et al. 2005).

There have been a number of causal explanations attempting to account for the high incidence of co-morbidity between depression, anxiety and alcohol use. One of these is that anxiety or depression promotes the pathological use of alcohol (Kushner et al. 2000). This is often referred to as the self-medication hypothesis (Khantzian 2003) which suggests that substance addiction functions to self-soothe and to modulate the effects of distressful psychological states (Suh et al. 2008).

M. Brooks · J. Bowman
School of Psychology, University of Newcastle,
Newcastle, Australia

F. Kay-Lambkin (✉)
National Drug and Alcohol Research Centre, University of NSW,
Sydney, Australia 2052
e-mail: f.kaylambkin@newcastle.edu.au

S. Childs
Central Coast Drug and Alcohol Clinical Service,
Northern Sydney Central Coast Area Health Service,
Gosford, NSW, Australia

Other research has found that experiencing stressful life events significantly predicts the amount and frequency of alcohol consumed (Dawson et al. 2005) and the onset of alcohol dependence (Lloyd and Turner 2008) indicating that stress plays a key part in the development of alcohol use disorders. Research has found an association between self-medication and increased co-morbidity with mental health disorders and suicide attempts (Bolton et al. 2006; Robinson et al. 2009a, b). However, other research has suggested that alcoholism promotes the development of anxiety and depressive disorders (Kushner et al. 2000) and the associated symptoms are a consequence of alcohol withdrawal (George et al. 2007).

Low self-esteem has also been found to pose a high risk for substance abuse (Baumeister 1993; Bushman and Baumeister 1998) and alcohol dependence (Chaudhury et al. 2010,) and is commonly related to negative emotions such as depression, anxiety and poor adjustment (Munford 1994). Conversely, DeSimone et al. (1994) found that alcohol use was positively associated with depression and, contrary to previous research, high self-esteem was related to greater alcohol use in students. Supporting this, Corbin et al. (1996) found that people with alcohol use problems have higher self-esteem than those who do not.

As many studies have found difficulties in defining, measuring and developing a theory to explain self-esteem (Crocker and Park 2004), a different psychological construct has been proposed; self-compassion (Neff 2003a, b) which involves feeling compassion and kindness for oneself because they are a person, not because of a particular highly desirable characteristic (Neff 2004). It has been suggested that as self-compassion does not involve an unrealistic self-view, it should be stable unlike self-esteem, which often fluctuates (Kernis et al. 1993). Since self-compassion is more stable than self-esteem and is less influenced by social desirability, increases in this domain should be more reliable than increases in the domain of self-esteem (Neff 2004)

Self-compassion involves being kind and understanding to oneself, awareness that pain and failures are unavoidable common experiences among humanity and a balanced awareness of one's emotions (Neff, Rude and Kirkpatrick 2007). A self-compassionate disposition is thought to promote health and well-being (Gilbert 2005; Neff 2003a). Kelly et al. (2010) suggested that the trait of self-compassion promotes adaptive functioning and appears to provide a buffer from emotional distress. Neff (2003a) has also reported that self-compassion was strongly inversely related to psychological health such as depression, anxiety, rumination, thought suppression, self-criticism and neurotic perfectionism. Neff, Kirkpatrick and Rude (2007) found that increased self-compassion resulted in reduced depression, anxiety, thought suppression, rumination and self-criticism.

Neff (2003a, b) suggests that there are three main components to self-compassion including self-kindness versus self-judgement, common humanity versus isolation and mindfulness versus over-identification. Self-kindness is being kind to oneself rather than judging harshly or being self–critical. Common humanity is viewing one's experiences as part of larger human experience and not viewing them as isolating or separating. Mindfulness is paying attention in a particular way involving a conscious direction of awareness (Kabat-Zinn 1994). Neff (2003a, b) describes mindfulness as taking a balanced approach to negative emotions and neither suppressing not exaggerating emotions.

The self-kindness facet represents an alternative to rumination, blaming, self-condemnation and self-criticism, which are commonly found in depressive disorders (Beck et al. 1979) and other disorders such as anxiety (Forsyth and Eifert 2008). Common humanity appears to be related to general well-being but lacks theoretical associations with specific psychiatric diagnostic symptomology (Neff 2003a). Mindfulness represents a state of mental balance with a stance of composure towards difficult and painful thoughts and feelings, therefore suggesting mindfulness may play an important role in adaptive and maladaptive emotion regulation (Van Dam et al. 2011).

Self-compassion can be thought of a coping strategy that assists one to remain emotionally balanced when in a stressful situation (Rendon 2007) and provides emotional resilience (Neff 2011). Germer (2009) suggested that an important part of the positive mental states associated with mindfulness-based interventions may be self-compassion. In various mindfulness-based interventions, an attitude of non-judgement and gentleness with one's behaviour is promoted (Hayes et al. 1999; Kabat-Zinn 1990). Other research has suggested that the efficacy of mindfulness-based intervention in the treatment of depression and anxiety may be partially due to the radical alternative self-compassion offers to the harsh self-criticism, rigid self-imposed standard and excessive self-control commonly found in these disorders (Germer 2009; Gilbert 2009).

In one of the few existing studies of self-compassion in the drug and alcohol field, Moeller and Crocker (2009) completed a study testing self-image goals and goals related to high self-compassion on heavy episodic alcohol used and alcohol related problems using 258 undergraduate college students. The results from the study found that self-image goals found to be associated with alcohol related problems but goals relating to high self-compassion were not.

Similarly, Rendon (2007) completed a study examining the relationship between alcohol use, self-compassion, mindfulness and self-esteem using 300 psychology students. The results indicated that alcohol use was negatively correlated to self-esteem, self-compassion and psychological symptoms, with psychological symptoms partially mediating the

association between these constructs. Additionally, self-compassion was found to be a stronger predictor of psychological health than mindfulness. To date, there has been no published research examining the relationship between alcohol dependence, hazardous alcohol use and self-compassion, a clear gap that this study seeks to address.

The present study will recruit clients of a Drug and Alcohol Clinical Service to examine the relationship between self-compassion, depression, anxiety and alcohol use. There has been limited published research on the relationship between self-compassion and treatment outcomes including depression, anxiety and alcohol use.

The first hypothesis is that high levels of self-compassion will be associated with lower levels of depression, anxiety and alcohol use at entry to treatment. The second hypothesis is that clients whose self-compassion improves over treatment will also report improvement in depression, anxiety and alcohol use at follow-up.

Method

Study Design and Setting The study was conducted using current clients of the Central Coast Drug and Alcohol Clinical Service in New South Wales, Australia. The Drug and Alcohol Clinical Service (DACS) of the Central Coast forms part of the area's general health service for a population of 306,257.

DACS provides a range of clinical interventions to Central Coast residents with alcohol/other drug use problems across the spectrum of early intervention, brief and extended treatment programmes. Services include community counselling, detoxification (hospital-based and outreach), needle and syringe programmes, pharmacotherapy services, a diversional programme for young people with AOD use problems and legal issues (magistrates early referral into treatment, MERIT), a cannabis clinic and general practitioner medical management programmes. A central intake service acts as the point of initial contact for access to DACS, with subsequent referrals made to relevant services as appropriate.

In 2006–7, 2,632 calls were received by the central intake service with 64% of these being referred to Central Coast DACS. Within the service, 3,329 treatment episodes were commenced, with 73% of clients completing treatment (NSCCHS 2008). The majority of these (61%) were for males, aged 20–39 years (51%), with alcohol being the most common primary drug of concern (49%). On average, clients commencing treatment with the counselling service within DACS attended an average of 4.5 treatment sessions.

Participants

One hundred and twenty-three participants were referred to the study. Of these, 5 (4%) were uncontactable, and 41

(33%) refused participation once contacted directly by the study team. No further information was collected on people who refused to participate in the study. Seventy-seven participants (42 male and 35 female), aged from 19 to 69 years, with a primary presentation of alcohol dependence based on a DSM-IV diagnosis from the referral agency, were recruited for this study. Participants were both new and existing clients of the Central Coast Drug and Alcohol Counselling Service (which consisted of three teams—Cannabis Clinic, MERIT or Counselling). Participants in this study ranged in age from 19–69 years. Age was divided into four categories which included 19–30 years ($n=24$), 31–40 years ($n=15$), 41–50 years ($n=25$) and 51–69 years ($n=13$). For the purposes of this study, a score of more than 1 on the OTI was determined to be daily alcohol use and a score fewer than 1 was determined to be non-daily alcohol use. Participant's other drug use was recorded but no further information about other co-morbid DSM-IV diagnoses was collected.

Procedure

Clinicians from the Central Coast Drug and Alcohol Counselling Service discussed with current clients the possibility of providing their contact details to the project Research Team during a standard treatment session. Newly referred clients to the Counselling Team were contacted by a Researcher/Clinician and asked for consent to release their contact details to the independent research assistant for formal consent and completion of assessments. Clinicians were unaware whether or not their client was completing the study.

Clients were then contacted by the researcher, who remained independent to the DACS, to discuss consent, and a baseline interview was arranged and conducted via the telephone. A second phone-based assessment occurred 15-weeks post-baseline. Up to $40 reimbursement was given to participating clients who completed the baseline and follow-up assessments as compensation for their time which was approximately 30 min each assessment.

Throughout the study period, clinicians of the Service were asked to provide treatment to their clients in the manner they felt was most clinically appropriate, and as per their usual clinical practice. There was no randomization of clients to treatment groups, nor any prescription provided by the research team as to what treatment of particular clients should constitute in this context. Consequently, the researchers had no control over the content of treatment sessions, or the duration of treatment provided.

Measures

Clients The baseline questionnaire consisted of a range of demographic information including gender, education, income, date of birth and involvement in drug and alcohol

rehabilitation services. The baseline and 15 weeks post-baseline questionnaires both included the Depression, Anxiety and Stress Scale (DASS-21; Lovibond and Lovibond 1995), the Opiate Treatment Index (OTI; Darke et al. 1991) and the Self-compassion scale (Neff 2003a).

The alcohol scale of the OTI was used to assess alcohol intake and, based on participant self-report of their last three use occasions in the month prior to assessment, assigned a score (OTI q score) indicative of both quantity and frequency of alcohol consumption. The 26 item Self-compassion scale was used to measure self-kindness, self-judgement, common humanity, isolation, mindfulness and over-identification. Neff (2003a) found the overall total of the SCS to be a reliable measure of self-compassion (α=0.93), and general population scores have been established for self-compassion (Neff 2003a), depression, anxiety and stress (Lovibond and Lovibond 1995).

Analysis The statistical package SPSS 18.0 for Windows was used for all the analyses. Pearson Correlation analysis between the DASS-21 scores, the self-compassion subscale scores and the OTI scores were performed. *t* tests examined the difference between the general population and current study scores for the DASS-21 and the Self-Compassion Subscales (see Neff 2003a and Lovibond and Lovibond 1995). One-way analysis of variance was used to examine the effect of gender and age on DASS-21 and self-compassion scores. The change in DASS-21 scores, self-compassion scores and OTI scores from baseline to 15 weeks was then computed and Correlation analysis and *T* tests were then performed.

Results

Participants

There were 77 participants in the current study (42 males, 35 females), all of whom were seeking treatment for Drug and Alcohol Dependence. For the purposes of this study, a score of more than 1 on the OTI was determined to be daily alcohol use and a score fewer than 1 was determined to be non-daily alcohol use. Participants in this study ranged in age from 19–69 years. Age was divided into four categories which included 19–30 years (*n*=24), 31–40 years (*n*=15), 41–50 years (*n*=25) and 51–69 years (*n*=13.)

Baseline Depression, Anxiety and Stress

One-sample *t* tests were used to examine depression, anxiety and stress scores for participants in this study compared to the norms for the general population (Henry and Crawford 2005). The results indicated that study participants were significantly more depressed (*M*(study)=17.481, SD=12.767) than the general population (*M*(general)=5.550, SD=7.480) *t* (76)=9.568, *p*=0.000. Participants in this study were significantly more anxious (*M*(study)=10.571, SD=10.346) than the general population (*M*(general)=3.560, SD=5.390, *t* (76)=4.259, *p*=0.000) and were significantly more stressed (*M*(study)=21.203, SD=11.218, *M* (general)=9.270, SD=8.040) *t* (76)=9.334, *p*=0.000). Comparing participants in the current study with another alcohol-dependent sample accessing public treatment services for alcohol/other drug use in Australia (Hammerbacher and Lyvers 2005), our participants scored significantly higher on the depression (*M*(study)=17.481, SD=12.767, *M*(general)=11.730, SD=10.560, *t*(76)=6.549, *p*=0.000) and stress subscales of the DASS-21 (*M*(study)=21.203, SD=11.218, *M*(general)=12.830, SD=10.300, *t*(76)= 6.549, *p*=0.000). No significant differences were evidence between the two samples on the anxiety subscale.

A one-way ANOVA found that there was no significant effect of gender on depression, anxiety, stress scores at baseline. A one-way ANOVA found that there was a significant effect of age on baseline depression [*F* (3, 73)=6.923, *p*= 0.000] but not on anxiety [*F* (3, 73)=1.758, *p*=0.163] or stress [*F* (3, 73)=2.270, *p*=0.083], with Bonferroni posthoc analysis indicating that people aged 19–30 and 31–40 were significantly less depressed than those aged 41–50 and 51–69 years.

Baseline Self-Compassion

One-sample *t* tests were used to examine the components of self-compassion for participants in this study with the norms for the general population (Neff 2003a). The results indicated that study participants were significantly lower in their overall self-compassion score than the general population [(*M*(study)=2.752, SD =2 0.072, *M*(general)=18.25, SD= 3.75), *t* (76)=−65.619, *p*=0.000].

Participants in the present study were significantly higher in the negative subscales of self-compassion than the general population. This included over-identification [(*M*(study)= 3.451, SD=1.101, *M*(general)=3.05, SD=0.096), *t* (76)= 3.194, *p*=0.002], isolation [(*M*(study)=3.286, SD=1.195, *M*(general)=3.01, SD=0.92, *t* (76)=2.024, *p*=0.046] and self-judgement [(*M*(study)=3.391, SD=1.012, *M*(general)= 3.14, SD=0.79, *t* (76)=2.181, *p*=0.032]. Additionally, participants were significantly lower in the positive subscales of mindfulness [(*M*(study)=2.597, SD=0.918, *M*(general)= 3.39, SD=0.760) *t* (76)=−7.93, *p*=0.000], common humanity [(*M*(study)=2.529, SD=0.957), *M*(general)=2.99, SD= 0.790, *t* (76)=−4.224, *p*=0.000] and self-kindness [(*M*(study)=2.107, SD=0.848, *M*(general)=3.05, SD= 0.750, *t* (76)=− 9.767, *p*=0.000] than the general population.

A one-way ANOVA found that there was not a significant effect of gender on any of the subscales of self-

compassion. A one-way ANOVA found that there was a not a significant effect of age on self-kindness [F (3, 61)=1.717, p=0.171, common humanity [F (3, 73)=1.417, p=0.245], isolation [F (3, 73)=1.077, p=0.364], mindfulness [F (3, 73)= 1.551, p=0.209] and over-identification [F (3, 73)=2.452, p=0.070]. The grand average of self-compassion was found not to be affected by age [F (3, 73)=1.504, p=0.221]. However, age was found to have a significant effect on self-judgement [F (1, 63)=2.829, p=0.044], with Bonferroni post-hoc analysis indicating a trend for participants aged 19–30 and 31–40 to score significantly lower on self-judgement than their older counterparts.

A one-way ANOVA found that there was a significant effect of alcohol use (daily/non-daily) on self-judgement [F (1, 75)=6.072, p=0.015], isolation [F (1, 75)=4.079, p= 0.047 and over-identification [F (1, 75)=6.549, p=0.013], indicating that daily users of alcohol reported significantly lower scores on these negative subscales of self-compassion than did their non-drinking counterparts. There was no significant relationship found between alcohol use (daily/non-daily) and self-kindness [F (1, 75)=1.456, p=0.231], common humanity, [F (1, 75)=0.000, p=0.998], mindfulness [F (1, 75)= 0.201, p=0.655] and the grand average of self-compassion [F (1, 75)=1.442, p=0.234].

Depression, Anxiety, Stress, Self-Compassion and Alcohol Use

Pearson correlations were used to examine the association between depression, anxiety, stress, alcohol consumption and the subscales of self-compassion. Depression was significantly positively related to self-kindness, self-judgement, isolation and over-identification (see Table 1), indicating that higher depression scores were significantly associated with higher scores on these subscales of self-compassion. Anxiety was also significantly positively correlated with self-kindness, self-judgement, over- identification, isolation, mindfulness and common humanity, as was stress with self-judgement, isolation and over-identification (see Table 1). There was a significant negative correlation between anxiety and the overall score for self-compassion. No significant correlations were found between any of the subscales of self-compassion and alcohol consumption (OTI q scores).

Fifteen-Week Post-baseline Self-Compassion Scores

One-sample t tests were used to examine 15-week post-baseline self-compassion scores compared to the norms for the general population. The results indicated that in the present study, participants remained significantly lower in their overall self-compassion score than the general population at our follow-up assessment [(M(study)=2.747, SD =0.513, M(general)=18.25, SD=3.750), t (52)=−220.159, p=0.000].

Participants in the present study were significantly higher in over-identification [(M(study)=3.311, SD=0.940), t (52)= 2.024, p=0.048] than the general population (M(general)= 3.05, SD=0.096) and significantly lower in mindfulness [(M(study)=2.893, SD =0.720, M(general)=3.39, SD=0.760), t (52)=−5.024, p=0.000], common humanity [(M(study)= 2.682, SD =0.917, M(general)=2.99, SD=0.790), t (52)= −2.443 p=0.018] and self-kindness [(M(study)=2.355, SD=0.747, M(general)=3.050, SD=0.750), t (52)=− 6.777, p=0.000]. In contrast to the baseline results, no significant differences were found between the study and general populations at 15 week post-baseline assessment for the subscales of isolation [(M(study)=3.135, SD=1.022, M(general)= 3.010, SD=0.920), t (52)=0.889, p=0.378] and self-judgement [(M(study)=3.004, SD=0.927, M(general)= 3.140, SD=0.790), t (52)=−1.070, p=0.290].

Fifteen-Week Post-baseline Depression, Anxiety and Stress

One-sample t tests were used to examine 15-week post-baseline depression, anxiety and stress scores compared to the general population. The results indicated that participants remained significantly higher in depression than the general population [(M(study)=11.226, SD=0.9.768, M (general)=5.55, SD=7.48), t (52)=5.714, p=0.000], as they did for stress [(M(study)=14.528, SD=9.217, M(general)= 9.27, SD=8.04), t (52)=4.153, p=0.000]. Study participants were not significantly different in anxiety [(M(study)= 8.076, SD =9.372, M(general)=3.56, SD=5.39), t (52) 1.962, p=0.055]. In addition, there were no significant differences between the current study participants and those in the Hammerbacher and Lyvers (2005) study of Australian alcohol-dependent treatment clients on depression, anxiety and stress scores at 15 weeks post-baseline.

Changes in Depression, Anxiety, Stress, Alcohol Use and Self-Compassion Between Baseline and 15-Week Post-baseline Assessments

A paired sample t test was used to examine the difference between the baseline and 15-week post-baseline scores on depression, anxiety, stress, alcohol use and the subscales of self-compassion. There was a significant difference found between the baseline and 15-week scores for depression, anxiety, stress and alcohol use, indicating improvement in each of these variables at follow-up assessment (see Table 2). There was also a significant improvement between the baseline and 15 weeks scores for self-compassion subscales of self-judgement and overall self-compassion (see Table 2).

Pearson correlations were performed to examine whether changes in the self-compassion subscales were associated with changes in depression, anxiety, stress and alcohol. To facilitate this, change scores were calculated by determining

Table 1 Pearson Correlations showing the relationship between depression, anxiety, stress, alcohol consumption and the subscales of self-compassion

Self-compassion subscales	Depression (Pearson's r)	Anxiety (Pearson's r)	Stress (Pearson's r)	Alcohol (Pearson's r)
Self-kindness	0.364 **	0.579**	0.268*	0.057
Self-judgement	0.509**	0.361**	0.463**	0.021
Common humanity	0.211	0.391**	0.196	0.103
Isolation	0.401**	0.404**	0.385**	0.015
Mindfulness	0.173	0.338**	0.127	0.021
Over-identification	0.372**	0.256*	0.331**	0.003
Grand average	−0.108	0.064	−0.251*	0.007

Depression, anxiety and stress is measured by the Depression Anxiety Stress Scale (DASS-21) from Henry and Crawford (2005); alcohol is measured by the Opiate Treatment Index from Darke et al. (1991); self-compassion (and its associated subscales) are measured by the self-compassion scale by Neff (2003a)

*$p<0.05$; **$p<0.01$

the difference for each of these variables between baseline and 15 weeks. The results showed that an improvement in depression was significantly associated with a reduction in self-kindness (Pearson's $r=0.423$, $p=0.002$), self-judgement (Pearson's $r=0.405$, $p=0.003$), mindfulness (Pearson's $r=0.302$, $p=0.031$), isolation (Pearson's $r=0.339$, $p=0.015$), anxiety (Pearson's $r=0.684$, $p=0.000$) and stress (Pearson's $r=0.749$, $p=0.000$).

An improvement in anxiety was significantly associated with a reduction in self-kindness (Pearson's $r=0.536$, $p=0.000$), self-judgement (Pearson's $r=0.335$, $p=0.016$), common humanity (Pearson's $r=0.390$, $p=0.005$), mindfulness (Pearson's $r=0.331$, $p=0.018$), isolation (Pearson's $r=0.311$, $p=0.027$), stress (Pearson's $r=0.660$, $p=0.000$), and alcohol consumption (Pearson's $r=0.333$, $p=0.017$). Reductions in stress were significantly associated with reductions in self-kindness (Pearson's $r=0.320$, $p=0.022$), self-judgement (Pearson's $r=0.386$, $p=0.005$), and isolation (Pearson's $r=0.308$, $p=0.028$). Reductions in alcohol use between baseline and 15 week follow-up were correlated with improvements in self-kindness (Pearson's $r=0.360$, $p=0.010$) and isolation (Pearson's $r=0.480$, $p=0.000$).

Discussion

This study is among the first to examine the self-compassion of people with alcohol dependence, who were currently using alcohol at hazardous levels and who, for the most part, were also experiencing depression and anxiety at higher levels than the general population, and depression and stress levels at higher levels than another Australian study of alcohol-dependent treatment clients.

There has been limited published research comparing the subscales of self-compassion among alcohol-dependent populations with that of the general population (Rendon,

2007). The results indicated that the participants in this study were significantly lower in mindfulness, common humanity and self-kindness than what would be expected in the general population. Participants were also significantly higher in over-identification, perceived isolation and self-judgement than the norms for general population.

A previous study by Neff (2003a) found that self-compassion was inversely related to depression and anxiety. Supporting the findings of Neff (2003a), the results from the present study indicate there is a significant associated between higher levels of anxiety, and higher levels of self-judgement, perceived isolation and over-identification. However, contrary to prediction, we found a significant positive relationship between anxiety, self-kindness, mindfulness, and common humanity at baseline. The nature of this relationship is unclear, and may be confounded by the participant's relationship to alcohol, with use attributed to reasons that often include avoidance of rumination, to cope with stress and anxiety and to self-medicate against everyday problematic thoughts and feelings. These results are worthy of further exploration to determine the nature of the relationship between anxiety reported by alcohol-dependent treatment seekers and self-compassion.

An inverse relationship was found between depression and the overall score for self-compassion but this was not found to be significant. When examining the subscales of self-compassion and depression, those participants who reported greater symptoms of depression, also reported feeling more isolated, judged themselves more harshly, and felt more responsible for negative consequences, but, counter to hypotheses, were kinder to themselves. Again, it may be that the use of alcohol to self-medicate these key symptoms of depression may have been interpreted by participants as an act of kindness towards themselves, albeit that they seem to have felt guilt and shame about resorting to alcohol use for this purpose.

Table 2 Comparison of baseline scores (1) compared to 15 weeks scores (2) for self-compassion, depression, anxiety, stress and alcohol use

Domain	Mean	SD	t(50)	p
Alcohol use				
Baseline	6.447	10.834	2.826	0.007
15-week post-baseline	2.899	3.607		
Depression				
Baseline	19.255	12.573	4.781	0.000
15-week post-baseline	11.431	9.872		
Anxiety				
Baseline	12.196	11.259	2.782	0.008
15-week post-baseline	8.118	9.452		
Stress				
Baseline	22.823	10.801	5.663	0.000
15-week post-baseline	14.431	9.124		
Self-kindness				
Baseline	2.259	0.853	-0.622	0.536
15-week post-baseline	2.337	0.739		
Self-judgement				
Baseline	3.478	0.932	2.963	0.005
15-week post-baseline	3.031	0.924		
Common humanity				
Baseline	2.623	0.948	-0.478	0.671
15-week post-baseline	2.665	0.915		
Isolation				
Baseline	3.436	1.148	1.764	0.084
15-week post-baseline	3.165	1.023		
Mindfulness				
Baseline	2.779	0.833	−1.064	0.292
15-week post-baseline	2.884	0.732		
Over-identification				
Baseline	3.466	1.063	0.923	0.361
15-week post-baseline	3.353	0.934		
Self-compassion total score				
Baseline	2.547	0.596	−2.722	0.009
15-week post-baseline	2.723	0.499		

Depression, Anxiety and Stress are measured by the Depression Anxiety Stress Scale (DASS-21) from Henry and Crawford (2005); alcohol use is measured by the Opiate Treatment Index from Darke et al. (1991); self-compassion (and its associated subscales of self-kindness, self-judgement, common humanity, isolation, mindfulness and over-identification) are measured by the self-compassion scale by Neff (2003a)

Stress was found to be significantly negatively correlated to the overall score for self-compassion (e.g., the higher the level of stress reported by the individual, the lower the self-compassion). Stressed individuals judged themselves more harshly, felt more isolated from others and felt overly responsible for negative events that occurred in their lives.

When used as a continuous variable, alcohol consumption in the month prior to baseline was not significantly correlated with overall self-compassion or any of its subscales. However, when alcohol use was dichotomized into daily/non-daily consumption, one-way ANOVA revealed a significant relationship between the self-judgement, perceived isolation and over-identification subscales of self-compassion and daily alcohol use. That is, participants who drank alcohol on daily basis reported lower feelings of isolation, lower tendencies towards self-judgement and over-identification than non-daily users, possibly again due to the reasons for use of alcohol commonly reported by alcohol-dependent treatment seekers. The difference in results for alcohol use on a continuum versus the classification of alcohol use as daily/non-daily is interesting to consider. The distinction between daily and non-daily drinking is a significant one to make, as it generally represents the point at which people drink in excess of recommended guidelines for non-hazardous consumption of alcohol. All participants in the study met criteria for alcohol dependence for the prior 12 month period, irrespective of whether they were current daily drinkers, indicating that their alcohol consumption was affecting several areas of functioning in their daily lives. The observation that for some, daily use of alcohol (which is in excess of recommended guidelines) persisted despite these problems suggests an additional level of severity of alcohol use may have existed these participants, perhaps with additional cognitive distortions around the role of alcohol in social situations, and as a means of numbing the person to the true nature of the problems caused by continued drinking.

Additionally, Neff, Kirkpatrick and Rude (2007) found that when self-compassion is increased, anxiety and depression is reduced, thereby suggesting that there is a relationship between self-compassion, anxiety and depression. While the finding from the relationship between the overall score for self-compassion and anxiety and depression do not appear to support this suggestion in the current study, further examination of the relationship between depression, anxiety and the components of self-compassion among alcohol-dependent individuals may provide a better understanding of these relationships.

In general, the study results indicated that participants had made some improvements in self-compassion in the time between baseline and 15-week follow-up assessment, with participants reporting self-compassion scores closer to the general community norms on some subscales at post-baseline assessment. For example, after 15 weeks of treatment, participants in the present study were still significantly lower in self-compassion, mindfulness, common humanity and self-kindness than the general population and significantly higher on over-identification. However, self-judgement and isolation were not significantly different from the scores

obtained from the general population in other research (Neff 2003a, b). Considering that self-judgement was related to alcohol consumption at baseline, efforts to reduce a person's problematic alcohol consumption, particularly via the use of meditative practice, incorporating mindfulness-based approaches, could be a powerful combination in promoting positive self-judgements, and perhaps more enduring change.

Taken together, these results indicate that participants in this study reported a significant increase in self-compassion, mindfulness, common humanity and self-kindness between baseline and 15-week follow-up and involvement in treatment with a Drug and Alcohol Clinical Service. Additionally, there was a significant decrease in self-judgement, isolation and over-identification. The reduction in self-judgement and isolation was such that at the 15-week follow-up stage, participant scores for these subscales were equivalent to what other research has suggested is representative of the general population.

We further sought to examine the relationship between changes in self-compassion and concomitant changes in depression, anxiety, stress and alcohol use at follow-up. As indicated previously, overall self-compassion significantly increased from baseline to 15 weeks into treatment. Additionally, there was a significant improvement in the results for all the self-compassion subscales; an increase in mindfulness, common humanity, self-kindness and a decrease in over-identification, self-judgement and isolation.

Over the same time period, there was a significant reduction in the alcohol consumption and this was significantly correlated with improvements in self-compassion. This is consistent with the findings of Rendon (2007), the only other study examining self-compassion and alcohol use. Rendon (2007) found a relationship between self-compassion and alcohol use with improvements in self-compassion being associated with a reduction in stress, anxiety, depression, tension and painful affective states which leads to a reduction in drinking behaviour. Neff (2003a, b) concluded that individuals who are self-compassionate are less likely to cope by using drugs or alcohol. Therefore, it may be that as participant's self-compassion increased, their use of alcohol decreased. In support of results found from other research, improvements in self-compassion in this study were associated with a reduction in depressive symptomology (Raes 2011) anxiety, and stress (Neff 2003a).

The change in depression was found to be significantly associated with self-kindness, self-judgement, mindfulness and isolation. This is consistent with the findings of Van Dam et al. (2011) who found that self-judgement, self-kindness, mindfulness and isolation subscales were significantly positively correlated to depression.

Reductions in anxiety were found to be significantly associated with self-kindness, self-judgement, common humanity, mindfulness and isolation. Other research has found similar results, with anxiety being significantly positively correlated to isolation and self-judgement (Van Dam et al. 2011).

The change in participant's stress was found to be significantly associated with self-kindness, self-judgement, isolation and the number of sessions in which meditative practice (which may have incorporated mindfulness-based approaches) was used by clinicians. These results provide support for the notion that significant increases in participant's overall self-compassion, self-kindness, mindfulness and common humanity can be observed in people with alcohol dependence over a 3-month treatment period. This group also reported significant improvements in self-judgement, over-identification, isolation, depression, anxiety, stress and alcohol use between baseline and 15 weeks into treatment.

There were a number of limitations associated with the present study, which need to be considered when examining the results discussed in this paper. Firstly, and most significantly, this study was part of a larger, naturalistic research study. We were not able to purposively select a study sample to receive a targeted intervention, nor were we able to accurately determine the content, length and quality of psychosocial interventions delivered to study participants. A significant limitation was that there were no treatment integrity checks possible for the current study and treatment sessions were not audio or video taped. Therefore, replication of this study is difficult. Having said this, however, the Drug and Alcohol Clinical Service provides standard evidence-based treatments to people with alcohol/other drug use problems in an outpatient setting. Future studies should focus on the effectiveness of a structured mindfulness intervention in increasing self-compassion and in the treatment of depression, anxiety, stress and alcohol use disorders in both a clinical population and a non-clinical population, using both an active treatment and control (treatment as usual, or no treatment).

Other limitations related to sample size considerations, particularly in comparing participants on different characteristics. For example, participant data was separated according to those individuals who used alcohol and those who did not. However, these groups were uneven in number with only 11 participants reporting no alcohol use and 60 participants indicating that they used alcohol. This study also did not examine temporal relationships between self-compassion and depression, anxiety, stress and alcohol consumption. Future research focusing on the antecedent of these relationships would be beneficial in determining the most effective treatment intervention and the timing of the intervention to improve self-compassion, to improve coping strategies when faced with stressful situations and reduce the risk of the development of an alcohol dependence disorder.

Despite these limitations, this study has provided important preliminary evidence for the relationship between self-compassion, depression, anxiety, stress and alcohol consumption among people with alcohol dependence.

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