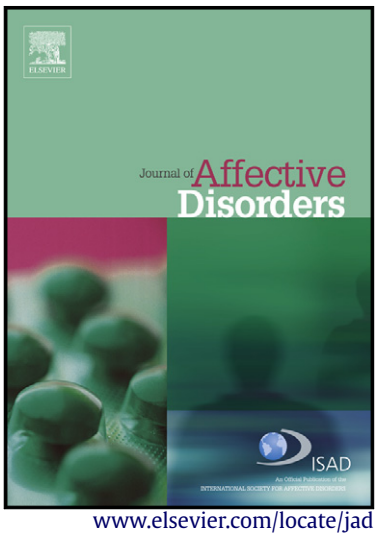

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Feeling connected again: Interventions that increase social identification reduce depression symptoms in community and clinical settings.

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Abstract

Background: Clinical depression is often preceded by social withdrawal, however, limited research has examined whether depressive symptoms are alleviated by interventions that increase social contact. In particular, no research has investigated whether social identification (the sense of being part of a group) moderates the impact of social interventions.

Method: We test this in two longitudinal intervention studies. In Study 1 (N=52), participants at risk of depression joined a community recreation group; in Study 2 (N=92) adults with diagnosed depression joined a clinical psychotherapy group.

Results: In both studies, social identification predicted recovery from depression after controlling for initial depression severity, frequency of attendance, and group type. In Study 2, benefits of social identification were larger for depression symptoms than for anxiety symptoms or quality of life.

Limitation: Social identification is subjective and psychological, and therefore participants could not be randomly assigned to high and low social identification conditions.

Conclusions: Findings have implications for health practitioners in clinical and community settings, suggesting that facilitating social participation is effective and cost-effective in treating depression.

Keywords: depression, social identification, loneliness, group psychotherapy, relapse prevention, mental health.

Introduction

Depression is currently ranked by the World Health Organization (2006; 2012) as the single greatest cause of disability worldwide. Although both psychotherapy and pharmacological treatments are effective in reducing acute symptoms (American Psychiatric Association, 2010), these treatments have shown limited effectiveness in preventing relapse over the longer term. As many as 80% of individuals with a history of depression can be expected to relapse, with an average of four episodes across a lifetime (Judd, 1997). Even among patients who have received evidence-based treatment, approximately one-third relapse within 18 months (Evans et al., 1992; Fava, Rafanelli, Grandi, Conti, & Belluardo, 1998; Shea et al., 1992). For this reason, current guidelines state that "for many patients… some form of maintenance treatment will be required indefinitely" (American Psychiatric Association, 2010). Currently, best-practice maintenance phase treatment involves long-term continuation of anti-depressants at the level required to achieve remission (Kupfer et al., 1992) or ongoing "booster" sessions of psychotherapy following remission (Holländare et al., 2013; Piet & Hougaard, 2011).

Although these treatment models can be effective in reducing rates of relapse, they come with notable downsides. The cost of both pharmacological and psychological interventions can be prohibitive (Simon, Fleck, Lucas, & Bushnell,

2004; Wang, Simon, Kessler, 2003), particularly as depression is more common among disadvantaged groups (Eaton & Kessler, 1981; World Health Organisation, 2006). In addition, there is a shortage of mental health professionals with the high level of training needed to administer these evidence-based treatments. This shortage is most pronounced in areas of greatest need (Saxena, Thornicroft, Kanpp & Whiteford, 2007; Thomas, Ellis, Konrad, Holzer & Morrisey, 2009).

There are also other barriers to the effective treatment of depression. Previous research has suggested that only a minority of individuals with depression present to a health professional (Goldman, Nielsen, & Champion, 1999), and only a minority of those who do present receive best-practice treatment (Simon et al., 2004). For instance, one of the most common pathways to treatment is a consultation with a General Practitioner and prescription for antidepressant medication. However, antidepressant medications have a compliance rate as low as 45 percent (Sawada et al., 2009), partly due to common side effects such as drowsiness, sexual dysfunction, and weight gain (Cascade, Kalali & Kennedy, 2009; Kikuchi, Uchida, Suzuki, Watanabe & Kashima, 2011). The majority of patients prefer non-drug treatment (Dwight-Johnson, Sherbourne, Liao, & Wells, 2000; Gum et al., 2006; Rokke & Scogin, 1995), but in spite of this therapy is often avoided because it is perceived to be stigmatizing (Crabtree, Haslam, Postmes, & Haslam, 2010; Howard, 2008). There is therefore a need for the development of treatment alternatives (particularly in the maintenance-phase of treatment) that are cost-effective, non-stigmatizing, and widely accessible.

Harnessing the power of social connectedness for depression treatment

Basic research has demonstrated that social isolation both precipitates and maintains depression. For instance, several large-scale studies have found that

perceived social isolation is a powerful longitudinal predictor of depression risk even after controlling for other candidate variables, such as depression history (Cacioppo, Hawkley, & Thisted, 2010). In addition, the specific trigger for a depressive episode is very often the loss of an important social tie, such as bereavement, divorce or retrenchment (Paykel, 1994; Tennant, 2002). Social isolation can also reduce responsiveness to treatment (Trivedi, Morris, Pan, Grannemann & Rush, 2005) and is a well-established risk factor for relapse (George, Blazer, Hughes, & Fowler, 1989; Paykel, Emms, Fletcher, & Rassaby, 1980).

Results of a small number of studies suggest that interventions to facilitate social interaction can effectively alleviate depression. For instance, some studies have found that social skills training (Bellack, Hersen, & Himmelhoch, 1981) or mutual support groups (Bright, Baker, & Neimeyer, 1999) reduced depression symptoms, comparing favorably to pharmacological or professional-led psychotherapy interventions. Relatedly, socially isolated older men in residential care who joined gender-based social clubs reported a decrease in depression symptoms three months later (Gleibs et al., 2011). Even internet-based support groups, which involve no face-to-face interaction, appear to have potential benefits for patients with depression (Houston, Cooper, & Ford, 2002). Of particular relevance to the current investigation, a large longitudinal study recently found that each social group that a depressed individual joined reduced their risk of relapse four years later by approximately 24 percent, after controlling for gender, age, ethnicity, relationship status, socioeconomic status, subjective health, initial number of group memberships and severity of depression (Cruwys et al., 2013). This effect was such that a depressed person who joined no groups was at 41% risk of relapsing four years later, compared to a much lower 15% risk for a person who joined three groups.

Even though these results look promising, it is also clear that interventions that aim to reduce depression by increasing social interaction have produced mixed results. In particular, those that involve one-on-one contact or making friends are generally found not to be effective in reducing depression (Cattan, White, Bond, & Learmouth, 2005; Perese & Wolf, 2005). We would argue this is not surprising because there is an important psychological difference between simply "showing up" at social activities and seeing oneself as a valued member of a given social group. In other words, social isolation is not simply a function of the amount social contact a person has, but rather is related to the sense of belonging or affiliation a person subjectively experiences from these interactions.

We posit that it is only when a person *identifies* with a group — that is, when the group is internalized in a way that contributes to his or her sense of self — that the group is likely to have benefits for depression. This is consistent with social-psychological theorizing, which argues that it is identification with a social group, rather than group membership per se, that determines the nature of people's social behavior (Turner, Hogg, Oakes, Reicher, & Wetherell, 1987; Turner & Oakes, 1997). It is this psychological representation of the self *as a group member* that it likely to have consequences for wellbeing.

Initial support for this claim is provided by a correlational study that found social identification was a better predictor of reduced depression symptoms than social contact alone (Sani, Herrera, Wakefield, Boroch, & Gulyas, 2012). In addition, a recent meta-analysis (Cruwys, Haslam, Dingle, Haslam & Jetten, in press) found a moderate negative correlation between social identification and depression (r = -.25) across 14 studies. Despite great variation in the type of groups (e.g., army reservists, students, family), in all cases higher social identification was associated with fewer

depression symptoms. However, none of the studies involved an intervention or utilized clinically depressed samples.

The central argument of the current research is that social activities are effective in reducing depression to the extent that they facilitate *social identification*. We argue that this constitutes the "active ingredient" of groups that gives them the potential to be curative for depression. The benefits of social identification have previously been demonstrated for a wide-range of health conditions, such as recovering from stroke (Haslam et al., 2008) or trauma (Jones et al., 2012). Indeed, studies have found that merely reminding individuals of their group memberships serves to increase resilience to stress and tolerance of physical pain (Jones & Jetten, 2011). We expect that the benefits of social identification will be especially apparent in the case of depression, compared to other wellbeing outcomes because depression symptomatology is partially defined by features that are antithetical to social identification: social withdrawal, lack of meaning and alienation from previously valued activities (or groups). In addition, existing evidence-based psychotherapies prescribe behavioral activation (cognitive-behavioral therapy; Beck, 2011) and conflict resolution (interpersonal psychotherapy; Weissman, Markowitz, & Klerman, 2000), both of which might potentially entail a boost to social identification by re-engaging a depressed patient with their social networks. Indeed, more generally, existing evidence suggests that social identification matters particularly for depression because lack of social identification is at the core of the condition (Cruwys et al., in press).

Our core hypothesis in the present research is therefore that social interventions (in both community and clinical settings) that facilitate the development of people's sense of social identification will be effective in reducing their depression

symptoms. We expect this to be true regardless of the content of the intervention or whether the group is conducted in a clinical or community setting.

Study 1

Study 1 was a community-based intervention that centered on facilitating vulnerable and disadvantaged individuals (the majority of whom had a diagnosed mental illness) to join a recreational social group. Depression symptoms were measured at participants' first attendance at the community group and approximately three months later. Our core hypothesis was that social identification with the community group would predict reduction in depression symptoms, even after controlling for initial depression severity, group-type and frequency of attendance.

Method

Participants. Participants were 52 members of the community recruited through social recreation groups run by a community organization ('Reclink') in a regional city characterized by a culturally diverse and socioeconomically disadvantaged population. Reclink is a nationwide nongovernment organization that organizes recreational and social activities for disadvantaged people at no or low cost. The majority of groups are facilitated by social workers and Reclink describes its target population as "the most vulnerable and isolated people – those who experience mental illness, disability, homelessness, substance abuse issues, addictions, and social and economic hardship" (Reclink Australia, 2013). Participation in the activities is by referral from a variety of different institutions that support members of disadvantaged groups (e.g., psychiatric facilities, immigrant support services, disability services, housing services and women's health centers).

The mean age of participants was 44.65 (SD = 13.79), and 75 percent were female. The majority were in receipt of government income support (57.7%) and

78.9% were not in employment of any kind. More than half of the participants (51.9%) had received a formal mental health diagnosis (the most common reported were depression or psychotic disorder).[1]

Measures. Participants completed a pen-and-paper survey starting with questions about demographic characteristics and frequency of participation, as well as the depression subscale of the Depression Anxiety Stress Scales and a social identification scale. Additional measures were also included such as questions about physical health, and other sources of social support as well as a structured interview, however these did not relate to our hypothesis and so will not be discussed further. All measures and procedures were approved by the University ethics committee.

Depression Anxiety Stress Scales (DASS-21) – Depression subscale. The DASS-21 is a well-validated short form of the Depression Anxiety Stress Scales (Lovibond & Lovibond, 1995). This measure has excellent validity in both clinical and non-clinical samples and reliability of at least $\alpha = .88$ (Crawford et al., 2009; Henry & Crawford, 2005; Page, Hooke, & Morrison, 2007). For instance, one study with a clinical sample found that the DASS-21 accurately classifies individuals with mood disorder, panic disorder or obsessive-compulsive disorder (Page, Hooke, & Morrison, 2007). Participants were asked at Time 1 and Time 2 to indicate how frequently in the preceding week they had experienced symptoms such as "I felt like I wasn't worth much as a person", from 0 "Did not apply to me at all" to 3 "Applied to me very much, or most of the time" ($\alpha = .91$ at Time 1). To create a continuous scale, responses were summed and multiplied by two in accordance with recommended practice (Lovibond & Lovibond, 1995). The mean depression score at Time 1 was 11.65 ($SD = 11.82$). This is above the recommended cut-off point of 10 indicating mild depression (Lovibond & Lovibond, 1995).

Social identification. Identification with the Reclink community group was measured at T2 using four items adapted from Doosje, Ellemers, and Spears (1995; e.g., "I have strong ties with members of this [Reclink activity] group", "I feel a sense of belonging with this [Reclink activity] group"). Responses options ranged from 1 "Not at all" to 7 "Completely" ($\alpha = .91$). Mean social identification at Time 2 was 5.63 ($SD = 1.13$).

Frequency of attendance. Participants were asked at Time 2 how often they had attended a Reclink group over the previous three months, with response options of "more than weekly", "weekly", or "monthly". Group meetings were typically held weekly.

Procedure. Potential participants were approached by a member of the research team after their first attendance at one of four social groups: indoor soccer, sewing, yoga or art. Individuals were eligible to participate in the study if they continued to attend the same Reclink group at least monthly at Time 2. Participants were offered $10 compensation at Time 1, and $20 at Time 2.

Results

Initial depression severity did not predict social identification ($\beta = .08$, *ns.*). In order to test the hypothesis, a hierarchical multiple regression analysis was conducted to predict depression severity at Time 2. At Step 1, Time 1 depression severity was added to the model. Step 2 added group-type (three dummy-coded vectors were used to represent the four types of group activity) and Step 3 added frequency of attendance to the model. Finally, Step 4 added social identification with the Reclink community group. Table 1 presents the coefficients for each step of this regression analysis.

As expected, depression severity at Time 1 was a strong predictor of depression severity at Time 2, explaining 48% of the variance. Overall, there was a marginally significant decline in depression symptoms between Time 1 and Time 2, $t(51)=1.69$, $p = .097$, $d = 0.47$, to a mean below the cut-off for mild-depression of 9.62 ($SD = 9.85$). However, this decline in symptoms was not uniform across the sample. After controlling for group-type and frequency of attendance (neither of which was a significant predictor), social identification with the Reclink community group predicted a more pronounced decline in depression symptoms, $t(45) = -2.56$, $p = .005$, $\eta^2 = .08$. In other words, and in line with our hypothesis, participants' mental health benefited more from the social group to the extent that they identified as a group member. As can be seen in Figure 1, this effect was such that although participants were, on average, above a clinical cut-off for depression at Time 1, those participants who were above-average identifiers with their group experienced a marked decline in their depression symptoms to well below the diagnostic cut-off point.

This analysis was repeated with depression diagnostic status at Time 2 treated as a dichotomous dependent variable in a binary logistic regression. Here social identification was a significant predictor (Wald's F (1,46) = 7.79, $p = .005$), such that participants who were below the median for social identification had a 52.0% chance of meeting the diagnostic cut-off for depression at Time 2, compared to a much lower 29.6% chance for participants whose social identification was above the median.

Discussion

As hypothesized, joining a social group was associated with a reduction in depression symptoms in this vulnerable population, but only for those participants who identified with the group. A strength of this study was its external validity, as it

utilized a community-based intervention targeting a disadvantaged population. However, the study had several limitations. First, non-random dropout was possible, as approximately 40% of participants had discontinued participation in their social group by Time 2. Second, it is still unclear whether the effects observed here would generalize to a sample of clinically depressed persons presenting for treatment. This is particularly important because we did not have information about any formal mental health treatment that participants may have been receiving concurrently. Furthermore, Study 1 does not tell us whether social identification provides a generalized boost to wellbeing (as suggested by some previous research; e.g., Dingle, Brander, Ballantyne, & Baker, 2013; Haslam et al., 2010) or whether it has benefits specific to depression symptomatology (as we propose).

Study 2

Study 2 utilized an outpatient sample undergoing group-based cognitive behavioral psychotherapy for depression or anxiety at a psychiatric hospital cognitive behavior therapy (CBT) unit. This setting was particularly appropriate for addressing our research question, as it allowed us to explore whether social identification might be a so-called "non-specific factor" that can account for the effectiveness of group-based psychological treatments. That is, researchers know that group psychotherapy is efficacious (Morrison, 2001; Norton & Hope, 2005; Oei & Dingle, 2008) but they are less clear as to the reasons for its effectiveness. However, patients point to factors such as being understood and accepted, receiving social support, and being "in it together" as important determinants of successful group therapy (Yalom & Leszcz, 2005). All of these factors have conceptual overlap with social identification.

Study 2 therefore sought to provide a further test of our hypothesis that social identification accounts for the benefits of social groups for depression, but also sought

to enhance our understanding of the role of social identity in group psychotherapy. Second, this study examines the moderating role of primary diagnosis (anxiety vs. depression) and symptom profile.

The key hypothesis for Study 2 was the same as for Study 1: that social identification with a therapy group will predict a reduction in depression symptoms, even after controlling for initial depression severity, group-type and frequency of attendance (H1). However, we were also able to investigate the role of two potential boundary conditions. First, we examined whether these effects would occur irrespective of primary diagnosis/therapy group type (H2), as the content of the group therapy sessions should be unrelated to the curative effects of social identification. Second, we predicted that these effects would occur specifically for depression symptoms, relative to anxiety symptoms or quality of life (H3). This is in line with our argument that depression symptoms might be particularly responsive to social identification due the socially-embedded nature of this mental illness.

Method

Participants. Participants were 92 adult outpatients who completed group cognitive-behavior therapy for depression or anxiety (48 depression, 44 anxiety)[2]. Twenty-five males and 67 females participated, with a mean age of 44.75 years (*SD* = 12.86). All participants received a primary diagnosis of a mood and/or anxiety disorder (according to the *Diagnostic and Statistical Manual of Mental Disorders* 4th ed.; American Psychiatric Association, 2000) based on a clinical interview with their treating psychiatrist. Patients were referred to either a depression or anxiety CBT psychotherapy group based on their primary diagnosis.

Participants were excluded on the basis of: (a) diagnosis of Mental Retardation or a Pervasive Developmental Disorder; (b) history of organically-based cognitive

dysfunction; (c) acute risk of suicide; and (d) a general medical problem that would contra-indicate treatment. Patients were *not* excluded on the basis of comorbidity, and 53.7% of the sample had more than one psychiatric diagnosis. The most common diagnoses were Major Depressive Disorder and Generalized Anxiety Disorder.

Procedure. Group therapy was conducted as 2 X 3.5-hour groups per week for four weeks with groups of 6 to 12 patients (the high intensity was due to the hospital setting). The program followed an established treatment manual (see Oei, 2011 for details). Both depression and anxiety groups consisted of interventions focused on learning new cognitive and behavioral skills and involved active participation during sessions and homework tasks (e.g., Dwyer, Olsen & Oei, 2013; Oei & Boschen, 2009). Participants completed questionnaires at Time 1 (on Day 1) and Time 2 (four weeks later following completion of Day 8).

Materials. Symptom severity was measured at both time points. Time 1 also included demographic questions, and Time 2 included a social identification scale to assess affiliation with the therapy group. Frequency of attendance was monitored and recorded by group leaders. Additional measures were also included that assessed schemas and distorted cognitions. However, as these were not central to the present investigation, they are not considered further here. All measures and procedures were approved by the University ethics committee.

Symptom checklists. Depression symptoms were measured using the Zung Self-Rating Depression Scale, which provides a validated indicator of the current behavioral, cognitive, somatic and affective symptoms of depression (Gabrys & Peters, 1985; Zung, Richards, & Short, 1965). Patients responded to 20 items such as "I feel down-hearted and blue" on a four-point scale from "A little of the time" to "All of the time," which was then converted to an index score in accordance with

recommendations (Zung et al., 1965). A higher score is indicative of a more severe level of depression. At Time 1, the mean was 63.63 (*SD* = 14.56) and 62.0% of participants were above the recommended diagnostic cut-off score of 60 (Thurber, Snow, & Honts, 2002).

Anxiety symptoms were measured using the Beck Anxiety Inventory (Beck, Epstein, Brown, & Steer, 1988), which is a validated measure of the severity of clinical anxiety symptoms. Patients were asked to rate how bothered they had been by 21 symptoms such as "Heart pounding/racing" in the past months on a four-point scale from "Not at all" to "Severely." Items were summed to a total score ranging from 0 to 63. A higher score is indicative of more severe anxiety. At Time 1, the mean was 19.33 (*SD* = 12.61) and 45.7% were above the diagnostic cut-off score of 20 (Leyfer, Ruberg, & Woodruff-Borden, 2006).

Quality of Life was measured using the Quality of Life Inventory (Frisch, Cornell, Villanueva, & Retzlaff, 1992). Patients rated 16 areas of life (e.g., health; money) in terms of importance (from 0 "Not important" to 2 "Extremely important") and current satisfaction (from -3 "Dissatisfied" to +3 "Satisfied"). Responses were then weighted (importance x satisfaction) and summed to yield an overall score of -96 to +96. A higher score is indicative of higher quality of life. At Time 1, the mean was 4.43 (*SD* = 29.64).

Social identification. Social identification with the therapy group was calculated using an 11-item scale, for example "I am glad that I belong to this group" and "I feel strong ties to this group" measured on a seven-point scale from "Not at all" to "Very much" (adapted from Hinkle, Taylor, Fox-Cardamone, & Crook, 1989; Leach et al., 2008; Luhtanen & Crocker, 1992). The mean of social identification at Time 1 was 5.24 (*SD* = 1.04).

Results

Group psychotherapy was effective overall, with participants experiencing a significant decline in depression, $t(91) = 6.42$, $p < .001$, $d = 1.35$, and anxiety symptoms, $t(91) = 2.61$, $p = .010$, $d = 0.55$, and a significant improvement in quality of life, $t(89)=-3.70$, $p < .001$, $d = 0.78$. Interestingly, symptom improvement was not specific to group-type: in three regression models (one each for depression, anxiety, or quality of life) that controlled for initial symptom levels, group-type did not predict degree of symptom improvement (all *p*s > .10). This suggests that individuals experienced symptom improvement that was non-specific to their primary diagnosis and the type of group therapy they received (anxiety- versus depression-focused).

As in Study 1, initial depression severity did not predict social identification ($\beta = -.18$, *ns.*). In order to test H1, a hierarchical multiple regression analysis was conducted to predict depression severity at Time 2. At Step 1, Time 1 depression severity was added to the model. Step 2 added group-type (anxiety vs. depression) and Step 3 added frequency of attendance to the model. Finally, Step 4 added social identification with the therapy group. Table 2 presents the coefficients for each step of this regression analysis.

As expected, depression severity at Time 1 was a strong predictor of depression severity at Time 2, explaining 55% of the variance. Consistent with our core hypothesis, after controlling for group-type and frequency of attendance (neither of which was a significant predictor), individuals' social identification with their therapy group predicted lower depression symptoms, $t(87) = -3.40$, $p = .001$, $\eta^2 = .05$. In other words, the more strongly participants identified with the therapy group, the more pronounced the improvement in their depression symptoms (see Figure 2).

To further investigate H1, this analysis was repeated with depression diagnostic status at Time 2 as a dependent variable in a binary logistic regression. The effect of social identification was significant (Wald's F (1,88)=6.88, p = .009) indicating that among participants who were below the median in their identification with the therapy group, 50.0% remained above the diagnostic cut-off for depression at the end of therapy, whereas among those participants with levels of social identification above the median, only 32.6% remained above the cut-off score.

To assess H2, a final stage was added to the original regression analysis specifying the interaction between group-type and social identification. This tested whether social identification had a differential effect such that it predicted symptom improvement only in one type of group. The interaction was non-significant (p = .95), indicating that social identification predicted recovery irrespective of primary diagnosis and the content of therapy.

In order to assess whether the effects were specific to depression or whether social identity related to wellbeing more generally (H3), two follow-up hierarchical regression analyses were conducted (equivalent to Table 2) that replaced the depression measures with (a) anxiety measures and (b) quality of life measures. Analysis of participants' anxiety was similar to that of their depression, in that initial anxiety severity was a strong predictor (β=.73, p< .001), while group type (β =.09, p = .214) and frequency of attendance (β = .01, p =.922) were non-significant predictors. The effect of social identification on anxiety symptoms was marginally significant (β =-.15, p= .068), such that social identification with the therapy group predicted a marginally greater improvement in anxiety symptoms.

Analysis of participants' quality of life followed the same pattern, such that initial quality of life was a strong predictor of quality of life at Time 2 (β =.81, p <

.001). Group type (β = -.05, p = .430) and frequency of attendance (β = -.09, p = .174) were non-significant predictors. The effect of social identification on quality of life was marginally significant (β = .14, p= .052), indicating that quality of life was marginally more likely to improve if participants identified strongly with the therapy group.

Finally, improvement in quality of life and anxiety symptoms were added as covariates to the original regression model predicting depression symptom improvement. This assessed whether reductions in depression symptoms could be predicted by social identification after controlling for more generalized improvements in wellbeing. Social identification remained a significant predictor of depression symptom improvement (t(83) = -2.81, p = .006, η^2 = .03). Therefore H3 was confirmed.

Discussion

Study 2 found that the effectiveness of group psychotherapy in improving depression symptoms was moderated by participants' identification with their therapy group. Among those below the median in social identification, half remained depressed at completion of therapy. By contrast, among those above the median, less than a third were still depressed at completion of therapy. Moreover, this effect was not explained by initial severity of symptoms, frequency of attendance at the therapy group, or by type of therapy received in the group (depression- versus anxiety-focused). The effect of social identification was, as predicted, more pronounced for depression symptoms than for other mental health indicators (anxiety or quality of life).

General Discussion

In two studies, social identification with a group predicted improvement in depression symptoms among disadvantaged members of the community who joined social groups (Study 1) and among outpatients at a psychiatric hospital who participated in group psychotherapy for depression or anxiety (Study 2). In both studies, improvement in depression symptoms over time was significantly predicted by social identification with the group, over and above initial depression severity, group type or frequency of attendance. The size of the effects are substantial and likely to be clinically relevant, given that in both cases low identifiers remained in the clinical range (on average) on depression outcome measures, while high identifiers had reduced depression symptoms, falling in the normal range (on average) by the end of the intervention. In other words, these findings imply a group has to *matter psychologically* in order to be beneficial for depression – simply "showing up" without commitment or engagement is unlikely to be sufficient.

We have demonstrated that the benefits of social identification are not specific to a particular treatment setting or group type. These results indicate that both a hospital-based therapy group during acute treatment and a community-based activity group over the longer term are beneficial for the participants who developed social identification with the group. This speaks to the value of work performed by non-government organizations and social services in advocating for social inclusion and social participation among disadvantaged communities. Furthermore, the current findings highlight a crucial role that health practitioners can play in facilitating depression recovery, both in clinical and community settings. Identification with social groups is highly malleable (Haslam et al., 2012; Onorato & Turner, 2004) and

might be enhanced through simple practices such as ensuring patients are assigned to groups that are a good "fit" with their needs and interests (Haslam et al., in press).

In Study 2, improvement in anxiety symptoms and quality of life was only marginally related to social identification (in either group). Therefore, although social identification might be a "non-specific effect" in that it is not related to psychotherapy content, it acts specifically (or at least, most strongly) on depression symptoms. This is likely to be due to the fact that depression is a mental illness characterized by withdrawal, purposelessness and loneliness – all factors that we would expect to be directly impacted by the sense of belonging that social identification engenders (Cruwys et al, in press). However, the capacity of social identification to have a more generalized positive effect on wellbeing should also not be overlooked, as this has been established in many studies (see Jetten, Haslam, Haslam, Dingle & Jones, 2014 for a review), including among vulnerable populations (e.g., Cruwys et al., 2014; Wakefield, Bickley & Sani, 2013).

Facilitating patients to join social groups that they are likely to value, or to rediscover the value of groups that they are already a part of, is a strategy that is compatible with existing treatment models – particularly interpersonal psychotherapy and behavioral activation strategies in CBT. Indeed, it seems likely that many health professionals already incorporate strategies to increase engagement with social groups in their treatment approach. However, social group-based interventions differ from existing treatment models in that they are highly suitable as a long-term, cost-effective relapse-prevention strategy (see also Cruwys et al., 2013). This warrants further investigation for its potential to reduce the lifetime burden of depression, which can be a chronic, recurring disorder. Restoring a sense of belonging would

seem to be a powerful means of restoring euthymic psychological functioning among depressed patients.

Limitations and Future Directions

A significant strength of the current research is that both studies used samples that are likely to be highly representative of individuals experiencing depression in community (Study 1) and clinical (Study 2) settings. This realistic sampling reduces the known problems associated with depression research that uses subclinical student populations (Coyne, 1994) and increases our confidence of the generalizability of the findings. It is worth noting that Time 1 depression did have a small (non-significant) negative relationship with social identification in both studies. Although depression is well-known to lead to social withdrawal, it would seem that the reverse effect of social connectedness on depression is stronger (as in previous research; Cruwys et al., 2013; Cacioppo, Hawkley & Thisted, 2010). Therefore, a second strength of the study is that it is unlikely that the results could be explained through reverse causation, especially as initial severity of depression was used as a covariate. A third strength of the study is that it points to the utility of social identification as a valid and well-operationalized non-specific group therapy factor that relates strongly to relevant outcomes (see also Hornsey, Dwyer, Oei & Dingle, 2009; Lambert, 2011;).

However, a limitation of both studies was that participants were not experimentally assigned to high or low social identification conditions. In fact, it would not be straightforward to do this because, as we have indicated, social identification — the mechanism through which social group membership exerts its benefits — is subjective and psychological. There is therefore a real sense in which social identification is inimical to the strictures of randomized controlled trials (see Haslam et al., in press, for a discussion).

In light of the evidence presented here that where (and only where) members identify with them, social groups can be an effective intervention for depression, it remains for future research to uncover what health professionals can do to enhance identification. More specifically, there is a clear need for future research to elucidate how health practitioners might enable patients to join social groups with which they identify, or enhance their identification with existing groups. In designing and implementing an intervention, we might consider its "identification potential" and how this might be maximized. By making treatment groups attractive for depressed people to join (e.g., because they capitalize upon pre-existing sources of social identification), it might also be possible to increase the reach of treatment and reduce drop-out. In light of previous research demonstrating that social connectedness precipitates, characterizes and ameliorates depression, there is also clearly a need for practical efforts to integrate this into evidence-based practice. The present study provides clues as to how such integration might be achieved.

Conclusion

The current research provides evidence that depression is responsive to social factors, by demonstrating that group-based interventions to increase social connectedness are most effective when patients identify with the social group in question. In other words, it would seem that it is not groups per se that cure depression, but rather groups with which we *identify* that cure depression. These findings point to the importance of social connectedness as a *psychological* phenomenon, and hence to the need to attend more closely to this psychological dimension of social functioning as well as to its grounding in shared group membership. This in turn points to a range of novel theoretical and practical challenges for future research to address. Most particularly, it suggests that tackling the challenge of depression involves not just putting the person back into the group, but also putting the group back into the person.

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Table 1.
Hierarchical regression equation to predict Time 2 depression severity in Study 1 (three months after joining community social activity).

	R^2 change	β	SE	*b (95% bias-corrected confidence interval)*
Step 1	.478*			
Time 1 Depression severity		.692	.085	.577 (.348 - .794)
Step 2	.036			
Group type: Art vs. Soccer		-.119	3.385	-3.218 (-10.481 – 2.316)
Group type: Yoga vs. Soccer		-.243	2.584	-4.782 (-12.472 – 1.046)
Group type: Sewing vs. Soccer		-.065	3.461	-1.989 (-11.588 – 5.839)
Step 3	.004			
Frequency of attendance		.066	2.457	1.572 (-4.126 – 6.736)
Step 4	.078*			
Social identification		-.302	.871	-2.563 (-3.936 – -1.005)

Notes
Entries are for variables at the stage at which they are entered into the model.
N = 52
* $p < .01$

Table 2.
Hierarchical regression equation to predict Time 2 depression severity in Study 2 (after completing group CBT for depression or anxiety).

	R^2 change	β	SE	*b (95% bias-corrected confidence interval)*
Step 1: Time 1 Depression severity	.553*	.744	.07	.726 (.610 – .860)
Step 2: Group type: Anxiety vs. Depression	.002	.040	2.026	1.131 (-2.533 – 5.069)
Step 3: Frequency of attendance	.000	-.003	5.067	-.205 (-9.111 – 12.211)
Step 4: Social identification	.052*	-.253	1.016	-3.459 (-5.600 – -1.724)

Notes.
Entries are for variables at the stage at which they are entered into the model.
N = 92
* $p < .001$

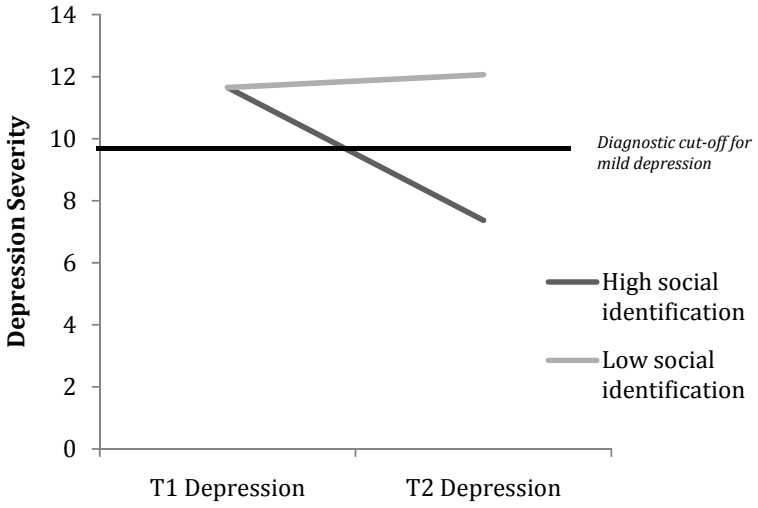

Figure 1. Social identification predicts who will benefit from a community-based intervention to reduce social isolation. High = +1 SD; Low = -1 SD.

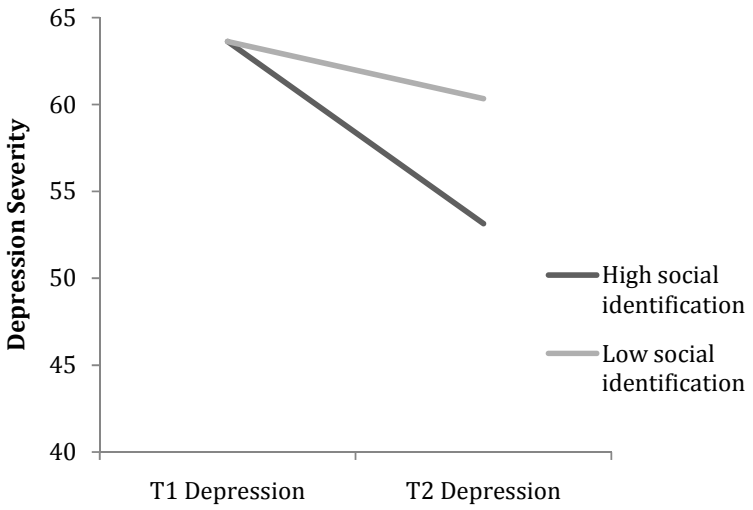

Figure 2. Social identification predicts reduction in depression symptoms during group psychotherapy. High = +1 SD; Low = -1 SD.

Footnotes

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Contribution Statement

All authors contributed to the study concept. G.A.D, J.J, M.J.H and T.P.S.O designed the studies. Recruitment, testing and data collection were performed by G.A.D, E.M.D.C and T.P.S.O. T.C conducted the data analyses, and drafted the manuscript. S.A.H, G.A.D. and J.J made detailed revisions to the manuscript. All authors provided feedback on the manuscript and approved the final version of the paper for submission.

Conflict of Interest

None to declare.

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[1] Of the 89 people who completed the survey at Time 1, 52 (58.4%) were retained for the Time 2 survey. Most common reasons for dropping out were that the group was discontinued (Reclink runs a number of courses for a term that may be discontinued due to organizational resources or demand) or that the participant obtained employment — meaning they were no longer available to attend. No differences were found at Time 1 between participants who dropped out compared to those who were retained in sample on gender, employment status, housing status, mental health diagnosis or depression symptoms.

[2] 156 participants commenced participation at Time 1 of Study 1, and 92 completed the program and the Time 2 questionnaire. This represents a 59% retention rate. No baseline differences were found on any demographic variables or symptom severity between those who discontinued participation and those who completed the study.