The Efficacy and Experience of MoodGroup, an Online Group Cognitive Behavioural-Based

Intervention for the Treatment of Depression in Australian Adults

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Declaration

I certify that except where due acknowledgement has been made, the work is that of the author alone; the work has not been submitted previously, in whole or in part, to qualify for any other academic award; the content of the thesis is the result of work which has been carried out since the official commencement date of the approved research program; and, any editorial work, paid or unpaid, carried out by a third party is acknowledged; and, ethics procedures and guidelines have been followed.

Kerry Arrow

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Related Publications

Arrow, K., Chester, A., & Yap, K. (2014, August). *The efficacy of MoodGroup: An online group therapy intervention for the treatment of depression in Australian adults.* Paper presented at the 15th International Mental Health Conference, Gold Coast, Australia.

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Abstract

Depression is a serious mental health condition affecting approximately 4.1% of Australian adults. Group cognitive behavioural therapy (gCBT) delivered online has the potential to provide affordable, accessible, and efficacious treatment to people living with depression. Online gCBT is however an emerging treatment modality and as such there exists a need to broaden the literature regarding its utility and efficacy. Usability testing provides unique insight into the way participants accept, understand, and use an intervention. Furthermore, usability tests inform the adaptation of interventions to better accommodate the needs of different users. Controlled trials are needed to determine the efficacy of online gCBT for depression. This thesis aimed to examine the efficacy, onset of response, group processes, usability, and key stakeholder perspectives of MoodGroup, an online synchronous gCBT intervention for the treatment of depression in Australian adults with clinically relevant symptoms. In total 92 Australian adults (19 male and 73 female) with a depressive disorder met the inclusion criteria for MoodGroup and were assigned to either a treatment or wait-list control (WLC) group. Provisional psychologists delivered the treatment intervention with groups of up to eight participants at a time. MoodGroups were hosted in synchronous virtual therapeutic rooms and ran for two hours a week over a course of nine weeks. Participants completed weekly readings and homework activities. They also completed fortnightly outcome measures assessing their depressive symptoms, general mental health, quality of life (QoL) and perceptions of the group climate. The usability of the intervention was assessed using weekly online session evaluation questionnaires. A mixed-method approach including linear mixed modelling and thematic content analyses assessed the efficacy and usability of MoodGroup. Additionally, focus groups and interviews were conducted with the MoodGroup facilitators and clinical supervisor in order to obtain their perspectives on the strengths and limitations of the intervention and their suggestions for changes and

improvement. The findings of the efficacy trial demonstrated effect sizes favouring the treatment over the control group for all variables. Strong effect sizes (d = 0.65-0.74) were noted for measures of depression, psychological distress, anxiety and dysfunctional thoughts. In comparison to the WLC, QoL was significantly improved in the MoodGroup recipients. Additionally, treatment effects were largely maintained over time. The chapter examining group processes determined that the group processes displayed in the MoodGroup intervention were similar to those observed in successful face-to-face gCBT interventions. Furthermore, group climate variables were found to predict outcome at post-treatment and six-month follow-up. The chapter examining the onset of response determined that similar to face-to-face groups, the majority of symptom improvement occurred in the early stages of the MoodGroup intervention. Additionally, early improvement and response to treatment was predictive of treatment gains at the conclusion of the MoodGroup intervention and at six-month follow-up. The chapter examining the perspectives of the MoodGroup stakeholders demonstrated the high usability and acceptability of the intervention. Additionally, valuable insights from the MoodGroup facilitators and clinical supervisor were obtained. These insights will guide changes to future versions of the MoodGroup intervention and recommendations for group online interventions in general. The major limitations of this research included the small sample size, high rate of attrition and reliance on self-reported data. In conclusion, MoodGroup demonstrated good usability and efficacy. Findings from this thesis contribute to the emerging literature surrounding online group therapy interventions and guide recommendations for future group-based online interventions.

Introduction

Depression is a common and debilitating mental health condition that has an estimated lifetime prevalence of up to 27.40% in Australian men and women (Kruijshaar et al., 2005). Depressive disorders impact heavily on affected individuals, their loved ones and the community as a whole. The disease burden of depression is in the same range as the burden attributed to diarrhoeal diseases, ischaemic heart disease or asthma and chronic obstructive pulmonary disease combined (Üstün, 2004). Furthermore, by 2020, major depression is predicted to rise to second in terms of worldwide overall disease burden (Goldney, Fisher, Wilson, & Cheok, 2000). Compared with non-depressed individuals, those with depression experience diminished levels of quality of life (QoL), reduced physical and mental functioning and are significantly less likely to carry out their normal activities of daily living (Goldney, Fisher, et al., 2000; Hawthorne, Cheok, Goldney, & Fisher, 2003). In addition to the physical and psychological costs, depression exacts significant economic costs that include reduced productivity and treatment costs (Hawthorne et al., 2003; Rice & Miller, 1995). Perhaps the greatest cost exacted by depression is the loss of life because of suicide. Major depression is an important risk factor for suicide, and up to 70% of those who complete suicide experienced a severe depressive episode (Isometsä, Henriksson, Aro, Heikkinen, & Kuoppasalm, 1994).

Although depression is a serious and potentially life-threatening condition, effective treatments are available. Group cognitive behavioural therapy (gCBT) is an efficacious psychotherapeutic treatment that focusses on modifying maladaptive, negative and dysfunctional thinking and behaviours (Thase, 2013). The group environment provides a powerful opportunity to address and ameliorate the interpersonal and social difficulties that commonly occur with a depressive episode (Bothwell & Weissman, 1977). Reviews of

gCBT interventions for depression consistently conclude that this is an effective treatment option for individuals across a variety of ages, treatment populations and categories of symptom severity (Oei & G. Dingle, 2008; Vandervoort & Fuhriman, 1991). Additionally, gCBT is more cost-effective than antidepressants or individually based CBT (Tucker & Oei, 2007; Vos, Corry, Haby, Carter, & Andrews, 2005).

Although gCBT has the potential to significantly reduce depressive symptoms in those affected by the condition, treatment access is limited by multiple factors. These include limited availability of qualified practitioners, stigma, cost, and inconvenience (Blumenthal & Endicott, 1996). Online therapies have the potential to address many of these treatment barriers. In recent years, there has been a prolific expansion of self-guided and therapist-assisted internet-based interventions for depression. Individually based online CBT interventions have shown great promise in treating depression with efficacy trials consistently demonstrating their ability to produce statistically and clinically significant reductions in depression and related symptoms that are maintained over time (Andrews, Cuijpers, Craske, McEvoy, & Titov, 2010; Barak, Hen, Boniel-Nissim, & Shapira, 2008; Cavanagh & Shapiro, 2008; Foroushani, Schneider, & Assereh, 2011; Kaltenhaler, Brazier, de Nigris, Tumur, & Ferrer, 2006; Richards & Richardson, 2012; Spek, Cuijpers et al., 2007). Online group interventions have however not developed at the same rate as their individually-based counterparts. Consequently, online group therapy is an emerging treatment modality with limited associated empirical research.

Research Questions

This thesis aimed to further the research base of online group therapy by investigating MoodGroup, an online gCBT intervention for the treatment of depression in Australian adults. The following four research questions were posed:

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1. How efficacious is MoodGroup in the treatment of adults with clinically significant symptoms of depression?

2. How do online and face-to-face group processes compare and can online group process variables predict therapeutic gains?

3. Is the onset of response to online gCBT similar to face-to-face trends and does early treatment improvement predict therapeutic gains?

4. What can be learnt from the experience of MoodGroup from the perspectives of its group participants, facilitators and clinical supervisor?

Chapter Overview

This thesis explores these research questions in eight chapters. The first chapter introduces and describes depression in an Australian context. It describes the major diagnostic criteria for a range of depressive disorders and analyses their physical, psychological, social, and economic impacts. The psychosocial causes of depression and an overview of the available treatments for depression are then outlined. The purpose of this chapter is to provide a comprehensive portrayal of what depression is and to describe psychological approaches to treatment.

The second chapter provides an overview of online therapy as a treatment approach for depression. This chapter examines the growing use of the internet in mental health treatment in general, and outlines the affordances and limitations of online therapy. It then reviews and summarises the literature pertaining to individually-based online CBT interventions for depression. The purpose of this chapter is to explore the characteristics of effective online interventions for depression. This information guided the implementation and development of the online group-based intervention forming the focus of this thesis.

The third chapter describes the creation of MoodGroup, an online gCBT treatment for depression. It discusses the conversion of an existing face-to-face gCBT intervention to an online treatment and provides evidence-based justifications for decisions related to the intervention's length, the technology employed and the presentation and delivery of the weekly MoodGroup sessions. It details the recruitment and training of the MoodGroup facilitators, discusses the decision to include individuals experiencing suicidal ideation, and describes the resulting comprehensive risk management plan.

The thesis results are presented across four chapters. The first research question is addressed in the fourth chapter of this thesis, the efficacy trial. This chapter describes the results of the non-randomised controlled trial evaluating the immediate and longer-term efficacy of MoodGroup. This chapter also discusses the inclusion and management of individuals at risk of suicide. This chapter presents the first efficacy trial of online gCBT in an adult population with clinically relevant symptoms of depression.

The fifth chapter of this thesis addresses the second research question by examining the group processes of the MoodGroup intervention and their ability to predict therapeutic gains in the immediate and longer-term. In this chapter, face-to-face and online group processes are compared. This chapter provides a significant contribution to the scant literature related to online group processes and their impact on treatment.

The third research question is addressed in the sixth chapter of this thesis, which examined onset of improvement trends present in MoodGroup, analysed the relationship between early improvement and therapeutic gains and explored the characteristics associated with early improvement. This research compared face-to-face and online response trends in gCBT interventions, and is the first to examine onset of response in an online group therapy context.

The seventh chapter addresses the fourth research question of this thesis by examining the MoodGroup experience from the perspectives of its key stakeholders, namely the group members, facilitators and clinical supervisor. This chapter included a usability analysis of the MoodGroup intervention. The affordances and limitations of the intervention are explored and recommendations for future interventions provided.

The final chapter reviews the research questions and summarises the findings from this thesis. Core themes that emerged from this thesis are discussed and central limitations of the thesis summarised. Additionally, this chapter offers suggestions for future research and discusses the implications of the findings from this thesis.

Chapter 1: Understanding Depression

Chapter Overview

This chapter introduces and describes depression. It describes the major diagnostic criteria for a range of depressive disorders and explores the prevalence of depression in an Australian context. It analyses the physical, psychological, social, and economic impact of depression and explores the relationship between suicide and depression. The psychosocial causes of depression are then described. Focussing on individual and group-based cognitive behavioural therapy, the chapter concludes with a brief overview of the available treatments for depression.

What is Depression?

Depression is a term describing a heterogeneous set of disorders in which affected individuals predominantly experience lowered mood and anhedonia. According to the Diagnostic and Statistical Manual of Mental Health Disorders (DSM-5; American Psychiatric Association, 2013) a major depressive episode (MDE) occurs when, for two weeks or more, an individual experiences a depressed mood and/or loss of pleasure with at least four other symptoms including difficulties concentrating, feelings of worthlessness, suicidal ideation, fatigue, psychomotor disturbances, and changes in appetite and sleep. MDEs are characterised by impairments in concentration and psychomotor disturbance. These episodes significantly impair daily functioning and are not better accounted for by the physiological effects of a substance or general medical condition.

According to the DSM-5 construction and categorisation of depressive disorders, depression manifests in at least five different forms (American Psychiatric Association, 2013). *Major depressive disorder* is characterised by one or more MDEs. These episodes

are not due to a medical condition, psychosis or substance abuse and there is no history of manic, mixed or hypomanic episodes as observed in bipolar disorder (Belmaker & Agam, 2008). Previously known as dysthymia, *persistent depressive disorder* is characterised by its chronicity and insidious onset. Those affected experience depressive symptoms on more days than not over a two year period. MDEs may also be concurrently experienced. Individuals with *bipolar disorder* oscillate between manic episodes, characterised by an elevated, expansive or irritable mood and depressive episodes. *Postnatal depression* describes an episode of irritable and depressed mood that can occur in women during their pregnancy or in the month following delivery. In the DSM-5, postnatal depression is classified as a MDE with peripartum onset. In *seasonal affective disorder*, individuals experience a MDE that recurs at a regular time of year. For example, individuals experience depressive symptoms over winter that resolve during the spring. The regular temporal relationship that exists between the onset of these mood symptoms and a particular time of year is not better accounted for by seasonally related psychosocial stressors such as seasonal unemployment. Individuals with *adjustment disorder* experience a stress-related, short-term, nonpsychotic disturbance in response to an identifiable stressor. Individuals with adjustment disorder can experience a depressed mood as part of their presentation (American Psychiatric Association, 2013). Depression is therefore a heterogeneous term describing a range of disorders characterised by low mood and emotional, cognitive and behavioural disturbances.

Prevalence

Mulder (2008) notes that during the latter half of the 20th century the incidence of depression rose markedly. Rates of depression have increased since World War II with an earlier onset of illness being reported (Weissman et al., 1996). Mulder states that this increased prevalence likely results from classification bias because of considering symptoms in the absence of their etiological context, enhanced awareness, and an evolving social

construct that conceptualises symptoms of depression such as persistent sadness and lack of motivation as illness. Regardless of the cause of this increased prevalence, depressive disorders are now viewed internationally as a major health challenge with an estimated lifetime prevalence of up to 21.4% (Kessler et al., 2005; Kessler et al., 2007).

Gender differences. Depressive disorders affect men and women differently, with most nations reporting that in adulthood, almost twice as many women than men experience depression. This gender difference appears to emerge during adolescence (Piccinelli & Wilkinson, 2000). Hyde, Mezulis, and Abramson (2008) proposed a vulnerability-stress model to explain the emergence of this gender-based difference by positing that a depressogenic vulnerability is formed in early adolescence through the convergence of affective, biological, and cognitive vulnerabilities that are expressed as depression in the presence of stress. These authors found empirical evidence supporting many components of this model. For example, they demonstrated that gender differences in negative cognitive style appear in adolescence, and that females are more likely than males to be exposed to negative life events and to have substantially more negative appraisals of events. High levels of negative affectivity were found to be a temperament- related variable that increases the vulnerability to a negative cognitive style. These factors combined increase the risk of depression in female adolescents. Furthermore, the authors posited that early timing of the onset of puberty in girls increases their vulnerability to depression.

A number of additional factors explain the gender differences in depression. Females are more likely than males to report psychological symptoms and seek psychotherapeutic intervention. Females are at greater risk of experiencing anxiety disorders than males, which in turn increases their risk of developing depression. Females are also more prone to experiencing economic discrimination, job inequality, role overload and role conflict caused

by employment, childcare and domestic maintenance demands. Gender differences in coping styles may also contribute as males are more likely to engage in a physical activity to distract themselves from a low mood whilst females are more likely to ruminate over the causes of their low mood (Piccinelli & Wilkinson, 2000).

Australian prevalence. Numerous studies have identified the prevalence of depression in Australian adults. In a random and representative Australian sample, Goldney, Fisher, Wilson, and Cheok (2000) reported that 6.85% of their respondents experienced major depression whilst 10.60% of their respondents experienced other types of depression. This concurred with data from the Australian National Mental Health Survey which revealed reported 12-month prevalences for major depression of 6.70% and 6.30% based on ICD-10 and DSM-IV criteria respectively (Andrews, Henderson, & Hall, 2001). The 12-month prevalence for dysthymia was reported to be 1.30%. A population-based study in South Australia found that 7% of South Australians reported major depressive symptoms with 11% experiencing symptoms of other depressions. Consistent with worldwide trends, rates of depression were consistently reported to be higher in woman than men (Hawthorne et al., 2003). However, the average length of a depressive episode appears to be longer for men than woman as demonstrated by Vos and Mathers (2000) who reported that the average duration of a depressive episode was 38.20 weeks for males compared to 24.90 weeks for females.

Kruijshaar and colleagues (2005) however argue that recall problems cause under-reporting when cross-sectional surveys are used to measure the lifetime prevalence of depression. As such, using an indirect estimation method, these authors determined that the lifetime prevalence percentages of depression in Australian women and men are respectively 34.40% and 20.10%, with a combined lifetime prevalence of 27.40%.

It is commonly believed that rates of depression are higher in rural and remote areas of Australia owing to limited mental health services, increased stigma and poorer physical health (Caldwell, Jorm, & Dear, 2004). However, analyses of epidemiological data comparing rural and urban areas have found little evidence supporting this claim. Kilkkinen and colleagues (2007) determined the prevalence of psychological distress, anxiety and depression in remote areas of Australia using cross-sectional surveys. Results indicated that the prevalence of anxiety and depression in the three rural communities surveyed was approximately 10%. These results were comparable to the findings from the Northern Rivers Mental Health Study which reported that depression rates in a large rural area of Australia were 13.90% at baseline and 8.10% at two-year follow-up (Beard et al., 2006). Analysing the prevalence of depression according to accessibility of health services, Goldney, Taylor, and Bain (2007) determined that depression is no more prevalent in rural than urban regions. It therefore appears that depression affects Australians equally, regardless of location.

Although rates of depression appear to vary little with location, rates of suicide are higher in rural than urban areas (Hirsch, 2006), particularly for young Australian men (Caldwell et al., 2004). Caldwell and colleagues explain that although the proportion of young men who report mental health problems (including depression) do not differ significantly between urban and rural/remote areas of Australia, those in non-urban areas are significantly less likely than those in urban areas to seek professional help. This is important to consider as major depression is considered one of the most important risk factors for suicide (Isometsä et al., 1994). The relationship between suicide and depression will be explored in detail later in this chapter.

Clinical Course of Depression

   Age of onset. Using cross-sectional interviewing in a community population, Sorenson, Rutter, and Aneshensel (1991) reported that the modal age of onset for a major depressive episode was adulthood (25-39 years). Pre-pubertal (0-13 years) and late onset (40+years) were reported as being uncommon. The onset of depression was significantly earlier for women than men. Age of onset was unrelated to the frequency of subsequent episodes or the number and types of symptoms occurring during the worst depressive episode. Early onset of depression was however associated with the presence of persistent depressive disorder. The authors concluded that early onset of depression is not necessarily associated with poorer outcomes than later-onset of depression but that it increases vulnerability to chronic low-grade depression.

   Klein and colleagues (1999) however reported some important clinical and etiological distinctions between those who experienced early (first MDE before age 21) versus late (first MDE after age 21) onset of depression. Those with early onset of depression experienced significantly more recurrent MDEs, significantly longer episode duration and significantly higher percentages of psychiatric hospitalisation than those with late-onset of depression. Those with early-onset of depression were also more likely to experience a comorbid personality disorder and meet criteria for depressive personality. Encouragingly, there were no differences between these groups in their treatment response. It therefore appears that although those with early onset of depression may experience episodes of greater clinical significance than those with late-onset of depression, they are just as likely to respond to treatment.

   Length of episode. The length of a depressive episode varies according to the treatment setting and hospitalisation status (inpatient versus outpatient). Typically, the

prognosis for those in community health settings is better than for those in psychiatric care. However, analyses of the average length of a depressive episode and time to recovery across settings indicate the chronicity of this disorder. For example, Melartin and colleagues (2004) found in an inpatient sample that although the median duration of a MDE after entry into psychiatric care was 1.5 (95% CI = 1.30-1.70) months, the median time to full recovery was 8.1 (95% CI = 5.20-11.00) months. In comparison, using a primary health care population, the median duration of a MDE was 6 (95% CI = 4-8) months and the median time to full recovery after entry into primary care was 6 (95% CI = 3.63-9.63) months (Vuorilehto, Melartin, & Isometsä, 2009). Severity of depression and presence of psychiatric comorbidities, particularly psychotic features, predict increased lengths of depressive episodes (Furukawa , Kitamura, & Takahashi, 2000; Melartin et al., 2004).

Remission, recovery, relapse, and recurrence. According to Richards (2011) *remission* is a period of less than eight weeks where an individual is free of depressive symptoms whilst *recovery* is a symptom-free period lasting longer than eight weeks. Partial remission occurs when more than minimal symptoms are displayed. Richards conducted a review on the clinical course of depression and concluded that recovery from a depressive episode is achieved by a large number (50-70%) of individuals within one year. However, a recurrence of depressive episodes will occur for between 14 - 35% of individuals, and up to 15% will experience chronic depression lasting many years.

Relapse occurs when individuals who responded positively to treatment experience a return of clinically significant depressive symptoms (Richards, 2011). The relapse rate for depressive episodes is relatively high and risk of relapse increases over time. Up to 25% of individuals who achieve remission can expect to relapse within one year (Kanai et al., 2003; Keller et al., 1992; Keller, Shapiro, Lavori, & Wolfe, 1982). The rate of relapse rises to 42%

by five years (Kanai et al., 2003). Numerous factors, including a history of depressive episodes, psychiatric comorbidities, old age and the presence of residual symptoms following treatment, contribute to a depressive relapse (Richards, 2011).

Recurrence, or the experience of further depressive episodes following successful treatment is high and recurrence rates increase with the experience of subsequent episodes (Richards, 2011). Recurrence rates also increase drastically over time. For example, Keller and Boland (1998) report that after two years the initial recurrence rate for a depressive episode is between 25-40%, which rises up to 60% after five years. After 10 years, the recurrence rate is 75% and after 15 years, it rises to 85%. Individuals who recover from their initial depressive episode are likely to experience future recurrences of depression, and the risk of recurrence increases with the number of prior episodes (Burcusa & Iacono, 2007; Solomon et al., 1997). The risk of recurrence appears higher for those who continue to experience residual symptoms following treatment. Additional risk factors include personal and family history of depression, psychiatric comorbidities, old age, the experience of subsequent episodes and poor treatment response (Burcusa & Iacono, 2007; Richards, 2011).

Impact of Depression

Depression impacts heavily on affected individuals, their loved ones, and the community as a whole. Although mortality is traditionally used as a measure of disease burden, the World Health Organisation has recognised that this underestimates the impact and burden of mental illness. Consequently, Disability Adjusted Life Years (DALYs) and Years Lived with Disability (YLDs) are used to measure disease-burden by combining information on mortality and non-fatal health outcomes to describe the number of years of productive life lost to a disability or illness (Goldney, Fisher et al., 2000). An analysis into the global burden of depressive disorders revealed that in 2010, depressive disorders were the

second leading cause of YLDs and accounted for 9.60% of global YLDs. Depressive disorders were also a leading cause of DALYs, accounting for 3% of global DALYs (Ferrari et al., 2013). The disease burden of depression is in the same range as the burden attributed to diarrhoeal diseases, ischaemic heart disease, asthma and chronic obstructive pulmonary disease combined (Üstün, 2004). Furthermore, Goldney, Fisher and colleagues (2000) reported that the Global Burden of Disease Study predicted that by 2020, major depression would rise to second in terms of worldwide overall disease burden.

Unipolar depression ranks highest of all diseases and illnesses when examined in terms of disability, or the inability to perform an activity in a usual and non-restricted manner. Associated with disability for 51 million people worldwide, it contributes to 10.70% of total years lived with disability from all causes (Murray & Lopez, 1996). In the 2004 Global Burden of Disease study, severe depression was weighted globally in the most severe disability category across age and gender (Mathers, Fat, & Boerma, 2008). Additionally, Goldney, Fisher and colleagues (2000) report that the diminished physical and mental functioning experienced by individuals with depressive disorders is similar to those experienced by individuals with chronic conditions such as arthritis and diabetes.

The impact of depression in Australia appears to follow worldwide trends. A burden of disease and injury study conducted by Begg and colleagues (2007) found that mental disorders, which are dominated by depression, accounted for 25% of the total health burden in 2003 and were the leading contributors of non-fatal burden. Furthermore, anxiety and depression ranked first for females (10%) and third for males (4%) in leading causes of disease burden, respectively accounting for 126 464 and 65 321 DALYs. This is similar to the DALYs for depression of 8.90% reported in other high income countries (Üstün, 2004). Hawthorne and colleagues (2003) estimate the burden of depressive illness in Australia to be

93 016 DALYs, with an additional 29 316 DALYs being attributed to indirect burdens such as disability, self-harm and risk of suicide.

Australians with depressive disorders experienced considerable degrees of morbidity, and diminished levels of QoL and physical and mental functioning when compared with non-depressed individuals. Furthermore, individuals impacted by depression are significantly less likely to carry out their normal activities and have higher rates of absenteeism than their non-depressed counterparts (Goldney, Fisher, et al., 2000; Hawthorne, et al., 2003).

Depression exacts not only physical and psychological costs, but economic costs too. These include reduced productivity, value of resources consumed and treatment costs to both the individual and service provider (Rice & Miller, 1995). An analysis into the economic burden of depression in the Asia-Pacific region concluded that the total cost of depression in Australia for 1997-1998 was an estimated US $1.80 billion, with 22% of these being direct costs (Hu, 2004). Hawthorne and colleagues (2003) measured the economic impact of depression in a South Australian population. Results indicated a cost burden of AUD $1921 million of which 22% was attributed to health care costs and 78% to direct patient costs. This study further indicated a graded relationship between severity of depression and economic costs. It further demonstrated that 77% of the depression cost resulted from lost productivity and inability to carry out normal daily activities. These results are consistent with worldwide trends, with cost-of-illness studies demonstrating that depressive disorders are associated with sharp increases in direct and indirect costs, and that these costs rise with the severity of the disorder (Luppaa, Heinrichb, Angermeyera, Königb, & Riedel-Hellera, 2007).

Perhaps the greatest cost of depression is the loss of life from suicide. According to Isometsä et al. (1994), major depression is one of the most important risk factors for suicide, with up to 70% of suicide completers experiencing a severe depressive episode. The rate of

suicide among individuals experiencing depression is markedly higher than that of the general population, with one in six individuals formally diagnosed with major depression being at risk of dying from suicide (Takahashi, 2001). Blair-West, Cantor, Mellsop, and Eyeson-Annan (1999) report that the lifetime prevalence of suicide in depressive disorders range from 3.50-15%, with young depressed males aged below 25 years being particularly at risk of dying by suicide. These authors further reported that although twice as many females than males are diagnosed with major depression, depressed males are approximately four times more likely to die by suicide. Symptoms of major depression that increase the risk of suicide include persistent insomnia, extreme psychomotor retardation, feelings of despair, hopelessness and worthlessness, and delusions (Takahashi, 2001).

The relationship between suicide and depression might be explained by a common underlying causal factor. Minkoff, Bergman, Beck, and Beck (1973) demonstrated highly significant positive correlations between hopelessness and seriousness of intent of suicide attempts in a clinical sample characterised by individuals with major depression. These authors concluded that hopelessness is a common causal factor linking depression and suicide. When treating depression, care should therefore be taken to address symptoms of hopelessness.

Causes of Depression

Consistent with the biopsychosocial model, research suggests that depression is caused by a combination of biological, psychological, and social factors. However, as the intervention approach examined in this thesis is psychosocial in nature this chapter focuses on psychosocial causes and treatments. An overview of the biological causes of depression is provided by Werner and Coveñas (2010), Kalueff and Nutt (2007) and Wasserman (2011).

Psychological causes. The biopsychosocial model emphasises the interrelatedness of biological and psychosocial factors in causing depression. Emotional experiences are governed by biological processes and biological processes are influenced by emotional experiences. Cognitive-behavioural conceptualisations of depression postulate that depressive mood is mediated by cognitive phenomena such as automatic thoughts and schemas. Automatic thoughts are near-reflexive internal discourses that mediate between situation and physiological reactions, behaviour, and emotions. Individuals with depression experience negative automatic thoughts about themselves, their world and their future. This is known as the negative cognitive triad (Abela & D'Alessandro, 2002; Beck, Rush, Shaw, & Emery, 1979). Cognitive distortions frequently result from negative automatic thoughts. These distortions are exaggerated or irrational thought patterns causing individuals to perceive reality in a negative light. They reinforce negative thoughts or emotions and interfere with perceptions of events, resulting in overall negative outlooks on the world. These negative thoughts tend to feed depressive behaviours and emotions (Beck, 2008).

Dysfunctional schemas can also influence depressive behaviours and emotions. Schemas are broad and pervasive themes regarding the way in which individuals view themselves and their relationship to the world. Developed during childhood, they are organised representations of earlier life experience informing information processing in the present. Maladaptive schemas are typically characterised by themes such as helplessness and abandonment. They include entrenched patterns of distorted thinking, disruptive emotions and dysfunctional behaviours. Stressful life events can activate dysfunctional schemas, which in turn promote depressive emotions and behaviours (Schotte, Van Den Bossche, De Doncker, Claes, & Cosyns, 2006).

Additional to cognitive phenomena, depressive mood can also be mediated by behaviours. Compared with those without depression, individuals with depression find fewer activities pleasurable, engage less frequently in pleasurable activities and obtain less positive reinforcement from these activities (Cuijpers, van Straten, & Warmerdam, 2007). They are likely to experience interruptions of established sequences of healthy behaviours and engage in depressive behaviours such as passivity instead. Environmental contingencies supporting this disruption are likely to strengthen depressive behaviours, which can in turn contribute to depressive moods (Hopko, Lejuez, Ruggiero, & Eifert, 2003).

The interpersonal context of depression is another psychological factor considered under the biopsychosocial model. According to Joiner (2002), certain interpersonal behaviours and styles place people at risk of developing depression because they create an interpersonal space characterised by negativity and rejection. Social skills deficits, excessive reassurance seeking and negative feedback seeking are examples of interpersonal behaviours that are considered depressive risk factors. The presence of social skills deficits is not in itself considered an antecedent for depression. However, social skills problems operate as a risk factor in the presence of negative or stressful life events. Excessive reassurance seeking is considered to represent a vulnerability factor for the development of depression across all ages. Similar to social skills deficits, individuals who seek excessive reassurance are particularly prone to depression following stressful life events. Negative feedback seeking is also considered to be a depressive risk factor. Those who constantly seek negative feedback are likely to experience increasingly negative self-concepts and negative affect, in turn increasing their vulnerability to depression. Furthermore, individuals with depression are more likely than those without depression to seek negative feedback, which in turn exacerbates their depressive symptoms (Joiner & Metalsky, 1995).

Interpersonal styles representing personality traits or broad patterns related to interpersonal functioning are also associated with the development of depression. Interpersonal inhibition, interpersonal dependency and certain attachment types are considered to be risk factors for depression. Avoidance, withdrawal, shyness, and non-assertiveness are interpersonal inhibitions associated with depression. These interpersonal styles reduce levels of social reinforcement and social support and increase isolation, which in turn increases the risk of depression. Interpersonal dependency, characterised by the excessive need for acceptance, support, guidance and admiration, is also a depressive risk factor because this interpersonal style leads to behaviour causing and maintaining depression. Individuals with higher interpersonal dependency are most likely to develop depression following interpersonal stressors (Joiner, 2002). Attachment styles are also considered important interpersonal processes associated with depression. According to Bowlby (1973), the way in which infants attach to their primary caregiver leads to internal working models that form a basis for their interpersonal relationships and emotional-regulation abilities. Those with insecure or anxious attachment styles are at increased risk of developing depression, most likely due to impairment in their ability to relate to significant others, access and utilise support in a crisis and feel secure (Bifulco, Moran, Ball, & Bernazzani, 2002).

Severe traumatic experiences such as abuse, neglect, and maltreatment experienced in early childhood also increase depressive vulnerability. Adults who have experienced early childhood trauma appear sensitised to the depressive effects of acute stress (Caspi et al., 2003). Additionally, early adverse experiences lead to epigenetic modifications in the neural circuits involved with reactivity to stress, arousal, vigilance and cognitive and emotional processing. These changes lower an individual's resistance to developing depression when challenging events are experienced later in life (Heim, Newport, Mletzko, Miller, & Nemeroff, 2008).

Social causes. In addition to biological and psychological factors, societal and socio-cultural factors are associated with depression. Social networks play an important role in protecting an individual's psychological wellbeing. Conversely, social disintegration and weak social networks are implicated in a variety of problems such as violence, substance abuse, suicide and psychopathology. Social networks provide support to buffer the effects of stressful life events. Thus, deterioration in social networks is a risk factor for the development of depression. Social networks, and the support derived from them, need to be understood in terms of their cultural context. This context determines whether different kinds of support are viewed as useful in coping with a certain type of stressor. The culture of a social group dictates the type of support available, the members of the social group available to provide the support and the conditions under which it is acceptable to offer or receive support. Social relationships that are culturally defined as supportive are related to positive health status and protective of depression (Palinkas, Wingard, & Barrett-Connor, 1990).

Poverty, inequality, and discrimination are further social-cultural risk factors for depression. Individuals with low incomes, particularly mothers with young children, commonly experience high levels of depressive symptoms. Adults living in poverty experience double the risk of developing a new episode of depression compared to adults with higher income. Poverty-stricken individuals experience more frequent, more threatening and more uncontrollable life events than those in the general population and are less likely to receive professional support (Belle, 1990). Additionally, marital relations are frequently strained by economic hardship with divorce being more common in low-income families. People living in poverty may lack the resources to cope with the myriad of difficulties they face, despite their best efforts. This may lead to the belief that problems cannot be overcome,

resulting in feelings of hopelessness and negative self-worth. All of these factors serve as precipitants for depression (Belle & Doucet, 2003).

Low social status is associated with poverty, although not all individuals with low social status necessarily experience severe financial hardship. However, like poverty, low social status is considered to be a risk factor for depression with lower subjective social status being significantly associated with higher levels of stress, pessimism, passive coping and less perceived control over life (Belle & Doucet, 2003). Income inequality is strongly correlated to women's risk of depression; with research indicating that women who experienced high levels of income inequality experienced a 60% greater risk of developing depression compared with women experiencing income equality (Kahn, Wise, Kennedy, & Kawachi, 2000).

Discrimination is a dynamic process that serves to maintain and highlight existing societal inequalities. Discrimination exposes affected individuals to repeated negative experiences over which they have little control, leading to the feelings of helplessness and diminished self-worth that frequently precipitate depression. Discrimination leads to reduced cognitive performance and elevated levels of negative affect, stress, aggression and anxiety. The frequent experience of sex discrimination in women is considered to be a primary reason for women being impacted by depression at a higher rate than men. Racial discrimination is strongly associated with depression, low self-esteem, anxiety and stress-related somatic symptoms like headaches and muscular pain (Belle & Doucet, 2003). It is clear that poverty, inequality and discrimination endanger mental health in general and are closely linked to the development and maintenance of depression.

Protective factors. In addition to the factors linked to the causation of depression, the biopsychosocial model also includes protective factors that reduce vulnerability to

depression. According to Lee (2005), protective factors modify the risk of adversity by being protective-stabilising, protective enhancing or protective-reactive. Protective-stabilising factors facilitate favourable outcomes despite increased risk; protective-enhancing factors enhance favourable outcomes in the presence of increased risk and protective-reactive factors provide favourable outcomes but less so in the presence of increased risk. These factors help individuals adjust positively in the face of unfavourable conditions. Lifestyle factors, such as regular physical activity, participation in sport, good diet and reducing life stressors protect again depression. Social factors are also important, with research demonstrating that having well-developed social skills, supportive social networks, a long-term intimate relationship and loved ones all reduce the risk of developing depression (Schotte et al., 2006). Cognitive and psychological protective factors include high self-esteem and self-efficacy, resourcefulness, hopefulness, and effective problem solving skills (Aro, 1994).

Treatment

A comprehensive analysis of the treatments for depression is beyond the scope of this chapter. However, a brief overview of the major treatments will be provided, with a focus on cognitive behavioural therapy as this is the intervention approach utilised in this thesis.

Biological treatments. The two main forms of biological treatment for depression are pharmacology using antidepressant medication and electroconvulsive therapy (ECT). Antidepressant medications are frequently prescribed for acute-and-continuous-phase treatment of individuals with depression, and are associated with response rates ranging between 50%-60% (Schulberg, Katon, Simon, & Rush, 1998). The main types of antidepressant medication include monoamine oxidase inhibitors (MAOIs), tricyclic antidepressants, selective serotonin reuptake inhibitors (SSRIs) and serotonin noradrenaline reuptake inhibitors (SNRIs). ECT is generally indicated in the treatment of severe

depression, or when other forms of treatment are ineffective. It involves the passing of a carefully controlled current electrical current through the brain to induce a seizure (Berman & Prudic, 2013). A meta-analysis into the efficacy of ECT conducted by The UK ECT Review Group (2003) revealed that treatment with ECT was significantly more effective than treatment with anti-depressants. A more detailed analysis of biological treatments for depression is outside the scope of this chapter, as the focus of this thesis is on psychosocial treatments for depression. Berman and Prudic (2013), Bourin (2012),and The UK ECT Review Group provide more detailed information on these treatments.

Psychotherapy. A variety of psychotherapeutic approaches are available for the treatment of depression, each of which posits a different etiological model for depression. For example, theories underlying behavioural therapy assert that low rates of response-contingent positive reinforcement cause and/or maintain depression. This type of therapy therefore aims to increase reinforcement by increasing pleasurable activities or eliciting social rewards through the building of assertion skills (Robinson, Berman, & Neimeyer, 1990). A number of psychological therapies demonstrate efficacy in the treatment of depression. These include cognitive-behavioural therapy (CBT), interpersonal therapy (IPT) and acceptance and commitment therapy (ACT). A review of CBT in the treatment of depression is provided below, as this is the intervention approach utilised in this thesis. Springer and colleagues (2011) provide an overview of IPT and Mello, Jesus, Bacaltchuk, Verdeli, and Neugebauer (2005) a systematic review of its efficacy in treating depression. Similarly, Hayes, Luoma, Bond, Masuda, and Lillis (2006) outline the fundamental tenants of ACT, and Powers, Zum, and Emmelkamp (2009) present a meta-analytic review of its treatment efficacy for depression.

Cognitive-behavioural therapy. Often recommended as the first-line treatment for depression (van Hees, Rotter, Ellermann, & Evers, 2013), CBT is one of the most widely practiced and best-studied forms of psychotherapy. As discussed previously, cognitive-behavioural conceptualisations of depression postulate that mood and emotions are directly linked to patterns of thought, and that maladaptive, negative and dysfunctional thinking and behaviours predispose an individual to depressive moods. The focus on therapy is therefore on cognitive restructuring, whereby thinking patterns are changed, and behavioural activation, which involves modifying the environment to increase access to reinforcing events and activities (Hopko et al., 2003). CBT is centred on problem-solving, and treatment recipients are taught to identify, prioritise and address problem behaviours and thinking styles. It is also goal-oriented, and teaches recipients to identify and operationalise short-term and long-term goals. CBT has a strong focus on psychoeducation, and treatment recipients are expected to take an active role in their therapy by participating in learning activities within treatment sessions and home practice activities outside of sessions. The main strategies for behavioural activation include activity scheduling, whereby treatment recipients are taught to recognise and then remedy depressive behaviours, graded task assignment, whereby complex tasks are identified and broken down into smaller, more manageable steps, and coping cards, which are brief, scripted responses to help individuals cope. The main strategies for cognitive restructuring include thought recording, whereby treatment recipients are taught to identify and label their negative automatic thoughts and modify them by examining the evidence for these thoughts and generating more rational responses. CBT is typically time-limited, with treatment lasting an average of 10-16 weeks (Thase, 2013).

As CBT is such a widely researched therapy, an abundance of studies have investigated its efficacy. Gloaguen, Cottraux, Cucherat, and Blackburn (1998) conducted a

meta-analysis of 48 (*N*=2765) high-quality controlled trials investigating the efficacy of CBT in the treatment of depression in adults. This meta-analysis aimed to determine whether CBT was superior to control conditions, anti-depressants, other forms of psychotherapy and whether it prevented relapse. Results indicated a significant difference in favour of CBT compared with wait-list or placebo conditions. The average CBT treatment recipient was 29% more improved than the average untreated participant. CBT also demonstrated superiority to antidepressant treatment, with the average CBT treatment participant being 15% more improved than the average participant on anti-depressants. CBT was also found to be superior to a range of different psychotherapies, including psychodynamic, interpersonal, supportive, non-directive and relaxation therapies. The average CBT treatment recipient was 15% more improved than the average individual receiving an alternate form of psychotherapy. It should be noted however, that some of these alternate forms of therapy (such as progressive muscle relaxation) are not comprehensive treatments for depression. Wampold and colleagues (2002) therefore re-analysed this data set by dividing these alternate therapies into bona fide and non-bona fide therapies for depression. Bona fide therapies were defined as those delivered by trained therapists based on psychological principles. When compared with bona fide therapies, CBT was found to be only marginally superior, leading the authors to conclude that all bona fide psychological treatments for depression are equally efficacious.

Butler, Chapman, Forman, and Beck (2006) conducted a review of meta-analyses investigating the efficacy of CBT for a range of conditions, including depression. With a Cohen's *d* effect size of 0.38, CBT was found to be slightly superior to anti-depressants in the treatment of adult unipolar depression. CBT was also found to be equally as effective as behavioural therapy in the treatment of adult depression ($d = 0.50$). It was also noted that,

with relapse rates half those of pharmacotherapy, CBT produces superior long-term persistence of effects.

The meta-analysis conducted by Gloaguen et al. (1998) reported that individuals treated with CBT were less likely to experience a relapse in their depressive symptoms than those treated with anti-depressants. On average, 60% of those treated with anti-depressants relapsed compared with 29.50% of those in receipt of CBT. Similar findings have been reported in more recent analyses. For example, Paykel (2007) reviewed seven studies comparing relapse rates of depression in individuals treated with CBT versus anti-depressants. Results demonstrated the advantage of CBT over medication in reducing relapse in the short and long-term. Paykel suggests a number of explanations. Some of the benefit may be attributed to the greater amount of non-specific therapist contact that individuals obtaining CBT receive compared to those treated with medication. It is also likely that CBT empowers treatment recipients with a coping framework that can be used upon the return or worsening of symptoms. In contrast, those treated with medication are unlikely to have the skills required to help themselves in the event of a depressive relapse. Fava, Rafanelli, Grandi, Conti, and Belluardo (1998) add that CBT may help to treat the residual symptoms of a MDE that, left untreated, may become prodromal symptoms of relapse. Fava and colleagues also state that CBT modifies the aspects of a maladaptive lifestyle such as excessive work, poor nutrition and inadequate exercise, which frequently contribute towards depressive episodes. Although further research is required to determine exactly why CBT is so effective in reducing relapse, it is clear that this form of treatment minimises the risk of a recurrence of a depressive episode.

Group psychotherapy. Group therapy aims to create positive psychological change through the affective and cognitive exploration of the interactions between each group member and the therapist(s), and among group members themselves. A range of

psychotherapeutic approaches are used in group therapy, and it is indicated across a wide variety of psychological disorders, including depression (Brabender, Smolar, & Fallon, 2004).

Group therapies typically focus on interpersonal relationships and provide psychosocial support. This is particularly important in the treatment of depression, as diminished levels of interpersonal functioning and support have consistently been shown to predict relapse and recurrence in depressive disorders. Bothwell and Weissmann (1977) explain that typically, depression disrupts an individual's ability to maintain and enjoy close interpersonal relationships both during and after an acute episode. Group interventions provide powerful opportunities to address and ameliorate these difficulties owing to their interpersonal focus and provision of psychosocial support (Yalom, 1995). Furthermore, it allows group members to accept help from, and offer support to each other. Group therapeutic environments allow for vicarious and interpersonal learning, altruism and universality (Fuhriman & Burlingame, 1990). Additionally, the group environment allows for the sharing of similar experiences, which fosters normalisation and decreases feelings of isolation. Moreover, the process of offering assistance to other group members can increase individuals' self-worth and self-esteem whilst the experience of obtaining assistance from group members in return can improve feelings of acceptance (Mackenzie, 1998).

Group therapy is an efficacious form of treatment for depression, frequently producing similar results to those observed in individual psychotherapy. A meta-analysis conducted by McDermut, Miller, and Brown (2001) reviewed 48 studies examining the efficacy of group therapy for adults with a depressive disorder. These studies included a range of psychotherapeutic treatment approaches. 93.50% of these studies reported significant decreases in depressive symptoms following group therapy. Eighteen studies included in this review compared group therapy to an untreated comparison group. Fourteen

of these studies demonstrated that those receiving group therapy were significantly more improved at post-treatment than those in the untreated comparison group. McDermut and colleagues reported that the average treated participant was more improved than 84.70% of the average untreated participant. The average Cohen's *d* effect size for group therapy versus no-treatment at post-treatment was 1.03 (SD =0 .81). This large effect size suggests that 87.40% of untreated participants were worse off than average treated participants. The average Cohen's *d* effect size at follow-up was 1.18 (SD = 0.83). This is again a large effect size and indicates that treatment gains from group therapy are maintained over time.

In addition to comparing group therapy to no-therapy, McDermut and colleagues (2001) also compared the efficacy of group versus individual psychotherapy. Nine studies in this meta-analysis delivered therapy in both formats, allowing Cohen's *d* effect size comparisons to be made. The effect sizes from four of the studies favoured group therapy, whilst the remaining five studies favoured individual therapy. The mean of the nine effect sizes was slightly in favour of individual therapy; however the difference between group and individual therapy was not statistically significant. The authors concluded that group therapy is an efficacious treatment for depression, and recommended that it be used as the first form of treatment in a stepped-care approach.

A more recent meta-analysis conducted by Cuijpers, van Straten, Andersson, and van Oppen (2008) compared the efficacy of psychological treatments for depression. As part of this analysis, the efficacy of studies examining individual psychotherapies (*n*= 29) was compared with that of group psychotherapies (*n* = 24). The findings from this review echoed those of McDermutt and colleagues (2001) by concluding that there were no significant differences in the effect sizes of these two treatment formats.

As depression places such a burden on the health care system and the economy, cost-effective treatments are highly desirable. A session-by-session fiscal analysis indicates that group therapy costs less than individual therapy (McDermut et al., 2001). In a study evaluating the cost-effectiveness of group therapy, Shapiro, Sank, Shaffer, and Donovan (1982) determined that the cost of treating eight participants in a 10-session group treatment program was less than 40% of the cost of treating those same participants individually. Additionally, group therapy is less resource intensive. For example, in a study comparing the efficacy of individual versus group therapy for depression, Ross and Scott (1985) reported that for a 12 session intervention, participants in group therapy received approximately six hours of therapist time whilst those receiving individual therapy received nine hours, with no difference in therapeutic outcome. McDermut and colleagues (2001) report that group therapy can result in a 62.50% time saving of therapists' time if two therapists facilitate the group, and an 80% time saving if only one therapist is involved. As group therapy allows the same therapist to treat simultaneously a number of clients, it is considered time and resource-effective.

Group CBT. Comparisons between gCBT and individual CBT interventions consistently demonstrate that gCBT produces similarly effective treatment outcomes in both the short and long-term (Bright, Baker, & Neimeyer, 1999; McDermut et al., 2001; Oei & Dingle, 2008; Teri & Lewinsohn, 1986; Tucker & Oei, 2007). Furthermore, gCBT produces positive treatment outcomes in a range of populations including the elderly, those from minority groups and individuals impacted by terminal illness such as cancer and HIV (Comas-Díaz, 1981; Himelhoch, Medoff, & Oyeniyi, 2007; Steuer et al., 1984). A review of the efficacy of gCBT interventions for depression conducted by Vandervoort and Fuhriman (1991) concluded that gCBT is an effective treatment intervention for individuals across a variety of ages, treatment populations and categories of symptom severity. Individual studies

published after the date of this review confirm the efficacy of gCBT in the treatment of depression (Free, Oei, & Sanders, 1991; Kwon & Oei, 2003; Morrison, 2001). In a more recent review of gCBT interventions for depression, Oei & Dingle (2008) examined 34 studies and reported large average Hedge's g effect sizes of 1.11 in favour of gCBT over a control condition and large average pre-post Hedge's g effect sizes of 1.30. Furthermore, gCBT was reported to be equally as efficacious as other bona fide psychological treatments. The authors concluded that gCBT is one of the most effective treatments for depression across a range of diagnostic subgroups and treatment populations.

As is the case with group therapy in general, a major advantage of gCBT is its cost-effectiveness. Vos and colleagues (2005) conducted a cost-effectiveness analysis of CBT and pharmacological treatments for depression in Australia. Their findings showed that gCBT interventions are more cost-effective than antidepressants or individually based CBT. Specifically, the cost gCBT provided by a public psychologist was more than half the cost of anti-depressant treatment or individual CBT conducted by a public psychologist for an acute depressive episode combined with six-month follow up care. Additionally, numerous studies have demonstrated that group therapy results in cost-savings ranging from 52%- 56% for clients themselves (Gould, Buckminster, Pollack, Otto & Yap, 1997; Gould, Otto & Pollack, 1995; Kashner, Rost, Cohen, Anderson & Smith, 1995). In their review of the interface between cost and efficacy of individual versus group-based treatments for depression, Tucker and Oei (2007) concluded that based on cost-savings and the equal effectiveness of individual and gCBT, gCBT demonstrates superior cost-effectiveness as a treatment for depression.

Combination therapy. When treating depressive disorders, it has become common practice to combine pharmacotherapy with psychotherapy. Combination therapy is believed to be superior to monotherapy because it may increase the treatment response and enhance

the acceptability and effectiveness of each individual treatment. Psychotherapy may assist individuals to manage the side effects of their anti-depressant medication whilst pharmacotherapy may assist with the motivation and concentration needed to obtain results from psychotherapy (Rutherford & Roose, 2013). The superiority of combination therapy over psychotherapy alone has been demonstrated when depression was chronic, severe, or moderate and chronic, but not when it was mild, non-chronic or moderate and non-chronic (de Maat, Dekker, Schoevers, & de Jonghe, 2007). Combination therapy has demonstrated superiority over pharmacotherapy alone and in in therapies lasting longer than 12 weeks, the addition of psychotherapy significantly improved rates of treatment adherence (Pampallona, Bollini, Tibaldi, Kupelnick, & Munizza, 2004).

Although there is evidence to support the superiority of combination over monotherapy, Rutherford and Roose (2013) warn that combination therapy has the potential to increase the cost, resources and side effects associated with treatment. They state that the advantages of combination therapy need to be carefully weighed against their disadvantages, and recommend that it only be prescribed to individuals with chronic and/or severe depression, those who have achieved insufficient response to monotherapy or individuals with complex presentations.

From this brief review, it is clear that there exist a number of effective treatments for depression. Deciding on the most appropriate form of treatment will depend on individual preferences, severity of depression and the underlying factors responsible for causing and maintaining the depression. Under a stepped-care model of treatment, the recommended initial treatment for mild cases of depression is psychotherapy, whilst pharmacotherapy or combination therapy is indicated in more severe or complex cases. When the illness is life-threatening or treatment resistant, ECT may be warranted (Scogin, Hanson, & Welsh, 2003).

Summary and Conclusion

In summary, depression is a serious mental illness characterised by lowered mood, anhedonia and changes in behavioural and psychological functioning. In Australia, as in the rest of the world, depression affects more woman than men and is associated with increased morbidity and risk of suicide, and decreased QoL and psychological and physical functioning. Depression is the leading cause of disability of all mental and physical illnesses and by 2020 is predicted to rise to second in terms of worldwide disease burden. Furthermore, depressive disorders are associated with significant direct and indirect costs to affected individuals, treatment providers and communities.

Depression is caused by a complex interaction between biological, psychological and social factors. Psychological causes include maladaptive cognitions and schemas, social skills deficits, excessive reassurance seeking and negative feedback seeking, interpersonal inhibition, interpersonal dependency and dysfunctional attachment styles and severe traumatic experiences such as abuse, neglect and maltreatment experienced in early childhood. Social causes include disorganised, unsupportive or sparse social networks, poverty, inequality and discrimination. Protective factors that decrease the risk of depression include a well-balanced and healthy lifestyle, stable, supportive and solid social networks, well-developed social skills, intimate relationships, high self-esteem, resourcefulness and good problem-solving skills.

A number of effective treatments are available to manage depressive disorders. Pharmacotherapy typically makes use of anti-depressant medications to regulate neurotransmission. The side effects of these medications need to be carefully considered and it is advised that treatment recipients be closely monitored and supported to continue to take the medication as directed. A range of psychotherapies, including CBT, IPT and ACT have

demonstrated their worth in treating depression. Administered by trained mental health professionals in individual or group formats, these therapies assist individuals to identify and work through the factors that are causing or maintaining their depression. Group therapies have the added advantage of directly addressing the social deficits commonly associated with depressive disorders. Psychotherapy can be administered singularly, or in combination with pharmacotherapy. In general, psychotherapy only is recommended for mild cases of depression whilst pharmacotherapy or combined therapy is recommended for more severe and complex presentations. ECT, which involves passing a carefully controlled current through the brain to induce a seizure, is indicated when the depressive symptoms are life threatening or when previous forms of treatment have proved ineffective.

In conclusion, depression is an episodic condition characterised by its high prevalence and rate of relapse and excess mortality from unnatural causes, namely suicide. It exacts an enormous toll on affected individuals, their family and loved ones and the community as a whole. By 2020, it is predicted that major depression will rise to second in terms of worldwide overall disease burden. Fortunately, depressive disorders can safely and effectively be managed using a variety of treatment strategies including pharmacotherapy and psychotherapy, alone or in combination, or ECT. Given its high prevalence in Australia, it is essential that the therapies offered be accessible, affordable and acceptable. Innovative treatment approaches may be required to satisfy these requirements and the increasing demand for effective therapy.

Chapter 2: Online Therapy in the Treatment of Depression

Chapter Overview

This chapter provides an overview of the use of online therapy in the treatment of depression. It commences with a definition of online therapy and outlines its different modes of delivery. It then describes the affordances and challenges of online therapy in general before reviewing and summarising the literature pertaining to individually-based online CBT interventions in the treatment of depression for adults. This chapter then describes what is currently known about online group therapy, highlighting the need for future research in this area.

Overview of Online Therapy

Internet-supported therapeutic interventions, or online therapy, involve the use of the internet in the delivery and execution of psychological treatments (Barak, Klein, & Proudfoot, 2009). Online therapy can be self-guided or delivered with the assistance of a suitably qualified mental health professional. These guided therapeutic interactions can take a variety of forms including email, video-conferencing, virtual reality technology, chat technology or any combination of these (Manhal-Baugus, 2001; Rochlen, Zack, & Speyer, 2004). Online therapy involves a variety of actions such as consultation, psychotherapy, psychoeducation and automated self-help delivered via the internet (Rummell & Joyce, 2010). Therapy can be synchronous or asynchronous. In synchronous therapy, client and therapist interact in real time using chat or video-conferencing technology. In asynchronous therapy, communications are not in real time but rather when either party is able to respond. Examples of this include forums, bulletin boards and e-mail therapy (Rochlen et al., 2004). E-mail therapy typically involves the exchange of emails between therapist and client. This solution-focussed approach allows the client to develop short narratives to see dimensions of

the problem not previously available to them. It creates a space for reflection and a

permanent record that can be reviewed to track progress (Oravec, 2000).

Internet-interventions do not have to involve a therapist. Web-based interventions

comprise self-guided, web-based programs allowing users to obtain mental health assistance.

These websites can be educational or designed to bring about behavioural change. Some

examples include e-COUCH (https://ecouch.anu.edu.au/welcome), Mood GYM

(www.moodgym.anu.edu.au) and This Way Up Clinic (https://thiswayup.org.au/clinic/).

Furthermore, there exists internet-delivered therapeutic software that uses advanced computer

capacities to simulate therapist dialogue or create gaming or virtual reality environments.

The Virtual Reality Treatment for Phobias program offered by Duke University School of

Medicine provides an example (http://psychiatry.duke.edu/divisions/general-

psychiatry/virtual-reality-therapy-phobias). Virtual-reality programs have been found to be

particularly effective for clients requiring exposure therapy (Barak et al., 2009).

The Affordances of Online Therapy

In Australasia, anxiety and depressive disorders account for the majority of mental

disorders yet fewer than 40% of affected individuals seek treatment from a mental health

professional. Furthermore, only 50% of these treatment-seekers receive appropriate and

adequate treatment (Sanderson, Andrews, Corry, & Lapsley, 2003) or perceive that their need

for psychological intervention has been met (Meadows & Burgess, 2009). This is partly

because demand for psychological services outstrips supply. This is especially true for CBT,

which requires high levels of training by practitioners and extensive treatment times per

individual client (Titov, 2007). Internet-delivered treatment is touted as a possible solution to

this treatment shortage.

A main advantage of internet-delivered CBT is that it requires less time by the therapist per client and can therefore increase treatment capacity.   This is advantageous to therapists who can increase their treatment loads, clients who will experience shorter treatment delays and to service managers who will be able to increase the capacity of their mental health services (Titov, 2007).

This reduction in therapist time also has significant cost-saving implications (Kaltenthaler, Parry, & Beverley, 2004; Mihalopoulos, Kiropoulos, Shih, & Gunn, 2005). Devenini and Blanchard (2005) demonstrated that internet-delivered CBT was more cost effective than traditional face-to-face therapy for clients with chronic headaches. Similarly, Kaldoa and colleagues (2008) found that an internet treatment for tinnitus distress consumed significantly less therapist time and was 1.70 times as cost effective as face-to-face group therapy.

A number of cost-analyses have determined the cost-effectiveness of internet-based treatments. Mihalopoulos and colleagues (2005) conducted an exploratory economic analysis of an online intervention for panic disorder supported by either a psychologist or general practitioner (GP) as compared with current practice, defined as treatment by a GP involving either evidence or non-evidence based medicine. Results indicated that mean cost of the online intervention was $3.80 million when assisted by a psychologist and $2.80 million when assisted by a GP. In contrast, the mean cost of training GPs to provide face-to-face treatment was $44 million. The authors concluded than online interventions were indeed cost-effective therapies. This finding was confirmed by Tate, Finkelstein, Khavjou , and Gustafson (2009), who conducted a review of eight studies examining the cost effectiveness of internet interventions. Results indicated that in general, online interventions were more cost effective than face-to-face therapies delivered by a therapist. Hedman, Ljótsson, and Lindefors (2012) reviewed cost-effectiveness as part of their systematic review of internet-

delivered CBT interventions for a range of health conditions including depression. Results supported the cost-effectiveness of internet-delivered CBT compared with both no treatment and face-to-face CBT. Online interventions are cost effective mainly because of their large effect sizes and reduced therapist time and delivery costs (Hedman et al., 2012; Tate et al., 2009).

Online therapies offer more than just savings to therapist time and costs. As this type of therapy is able to transcend geographic boundaries it is accessible to people in remote communities and those who have difficulty accessing more traditional forms of healthcare (Barak et al., 2009; Cuijpers., van Straten, & Andersson, 2008). It further allows for clients to access assistance from experts in a particular field who are not within close proximity to them (Rummell & Joyce, 2010). Additionally, people with mental illness may not access in-person therapy for reasons including cost, physical disability, stigma, travelling distance, and discomfort in talking to strangers about personal difficulties (Cuijpers, van Straten, & Andersson, 2008). These issues are particularly pertinent in rural areas where access to face-to-face mental health services is limited and where rural community norms frequently dictate self-management of health problem (Rost, Humphrey, & Kelleher, 1994). Asynchronous online therapy has the further advantage of not requiring fixed appointment times, allowing clients to formulate and reflect on their responses in a place that is convenient to them (Manhal-Bagus, 2001).

The ability for clients to reflect on their responses is an additional advantage of online therapy. Manhal-Bagus (2001) states that online therapies enable clients to write down and reflect on their stories, creating a permanent record for them to reference. Furthermore, it provides the freedom to express their ideas and thoughts in a clear and uninterrupted manner. Additionally, this type of therapy creates a zone of reflection where clients are able to reflect on both their and their therapists' insights. It may also enhance clients' sense of emotional

containment and control, as they are able to set the pace, volume, tone and amount of self-disclosure (Rochlen et al., 2004).

Research suggests that people are more likely to self-disclose over the internet than face-to-face. According to Allerman (2002), this is because clients typing anonymously in the comfort of their own home feel less self-conscious less inhibited and better able to express themselves than if they were facing a therapist. Suler (2004) explored online disclosure and concluded that people are more likely to self-disclose or act out more frequently or intensely when they are online than in-person. This is described as the online disinhibition effect and is attributed it to a number of factors including anonymity, invisibility and minimisation of authority. Rochlen and colleagues (2004) add that disclosure may be increased online as this environment reduces the power differential between therapist and client, allowing both parties to co-author the client's insights.

Online interventions have high satisfaction ratings, with a number of reports indicating that treatment recipients find this medium useful, easy to use, relevant and beneficial. Additionally, many treatment recipients report that the experience of engaging in online therapy exceeded their expectations and at times was equal to or better than seeing a therapist face-to-face (Cavanagh, Secombe, & Lidbetter, 2011; Learmonth, Trosh, Rai, Sewell, & Cavanaugh, 2008; Meyer et al., 2009; Perini, Titov, & Andrews, 2009; Wright et al., 2005). Richards and Timulak (2013) compared the satisfaction ratings of self-help versus therapist-assisted interventions. Results indicated high satisfaction for both forms of online therapy, with almost 90% of individuals receiving either treatment form stating that they found the treatment to be helpful and would recommend it to others. They particularly liked the structured nature of the treatment, its accessibility, anonymity and convenience. Those in the therapist-assisted intervention found it particularly useful to have the remote assistance of a mental health practitioner.

In summary, online therapies provide a number of affordances, including time and cost savings by therapist and client, increased accessibility and convenience, decreased stigma about accessing treatment, increased client self-disclosure and reflection and high satisfaction ratings.

The Challenges of Online Therapy

Despite its numerous affordances, online therapy presents a number of challenges. Allerman (2002) states that online therapy is inappropriate for a range of clients. These may include those in crisis situations or who are acutely suicidal as the therapist may only become aware of the client's situation when it is too late to access help. Furthermore, online therapy is considered inappropriate for clients who have difficulty differentiating reality from fiction; those with borderline personality disorders; and presentations such as anorexia where clients need to be physically seen and monitored. Furthermore, Cujipers and colleagues (2008) note that online therapy is unsuitable for technophobic clients or those lacking the skills to use computers or the internet. The irony of online therapy is that although it aims to improve treatment access it may be limited to those who have appropriate levels of literacy and the skills and means to access the internet. It is therefore in danger of being an elitist treatment modality (Manhal-Baugus, 2001).

Text-based online therapy does not allow for therapists to access non-verbal and visual cues that convey important information about their clients, making misunderstandings and misinterpretations very common (Bromme, Hesse, & Spada, 2006). Consequently, much time in an online session may be devoted to clarifying communication. This difficulty is exacerbated with asynchronous forms of therapy as it may take some time before miscommunications are addressed (Allerman, 2002). Furthermore, the lack of visual cues and access to non-verbal behaviours may rule out experiential therapeutic approaches that

require an in-person presence. Online therapies may also be problematic when age verification is necessary. Additionally, it is difficult to verify the identity of clients accessing online therapy, which means that therapists may not be certain that they are working with their assigned client (Rochlen et al., 2004).

Online therapy also presents with significant privacy and confidentiality concerns. The internet is not a secure medium. As such client confidentiality can be breached when information is transmitted electronically over computer networks (Banach & Bernat, 2000; Sampson, Kolodinsky, & Greeno, 1997; Yao, Rice, & Wallis, 2007). Data encryption is touted as a solution to this as encrypted data makes it virtually impossible to intercept or misdirect network transmissions. However, for this to be effective, the data needs to be encrypted from both the client and the therapist, which may not necessarily occur (Abbott, Klein, & Ciechomski, 2008; Sampson et al., 1997). Furthermore, data that is not stored securely is open to hackers and breaches of client confidentiality (Rochlen et al., 2004). Client confidentiality can be further breached if emails are mistakenly sent to the wrong address (Midkiff & Wyatt, 2008). Furthermore, clients may undertake online therapy in non-private settings such as their workplace or whilst at home when others are present (Sampson et al., 1997).

A further concern with online programs is that they typically demonstrate high attrition rates. Melville, Casey, and Kavanagh (2010) demonstrated that attrition rates associated with online interventions for psychological disorders ranged from 2-83% with a weighted average of 31%. There is limited evidence to explain the reasons for attrition in these interventions (Melville et al., 2010). However, Farvolden, Cunningham, and Selby (2009) suggest that high rates of drop-out may be attributed to the fact that this type of therapy is generally anonymous and provided free of charge so clients feel unobligated to continue to access them. Additionally, clients may experience significant reductions in their

symptoms after the first few sessions which may serve as a disincentive to continue with treatment (Farvolden et al., 2009).

In summary, there are a number of challenges related to the delivery of online therapy. These include client confidentiality concerns, equitable access issues, difficulties obtaining and verifying information about a client and high rates of attrition in self-help interventions.

Internet-Based Cognitive Behavioural Therapy

Despite these challenges, online therapies such as internet-based cognitive behavioural therapy (iCBT) have become increasingly popular. Internet-based CBT is a term used to describe structured sessions of CBT delivered via the internet. These programs typically provide psychoeducation, activities aimed at behavioural and cognitive change and homework tasks. Programs vary in the amount of therapist involvement provided. Therapist-assisted programs allow for therapeutic contact via chat, email or the telephone whilst others are entirely self-guided (Suler, 2004). Kaltenhaler and colleagues (2004) state that a traditional therapeutic relationship tends not to exist in iCBT as the therapist is only there to support the working through of the standardised treatment. The structured and manualised nature of CBT lends itself to adaptation as an internet-therapy (Spek, Cuijpers, et al., 2007).

iCBTs have acquired a body of research demonstrating their worth when used as an adjunctive treatment for a range of psychopathologies including mood, eating and anxiety disorders. These online programs tend to be delivered in the form of individual treatments using a combination of self-paced learning and online interactions with a therapist (Andersson & Cuijpers, 2009; Griffiths & Christensen, 2007; Griffiths, Farrer, & Christensen, 2010).

Cujipers and colleagues (2008) conducted a systematic review of 12 randomised or comparative online CBT interventions across a range of physical health conditions. They found that treatment effects differed according to the type of condition. Compared with control groups at post-test, moderate to large effect sizes were demonstrated for pain interventions whilst small to moderate effects were noted for headache and tinnitus and chronic disease interventions. It was concluded that online CBT interventions showed promise as a model of treatment for physical conditions but that further research was needed to examine the best way to deliver CBT on the internet and integrate online interventions into a stepped-care model of care.

The Use of the Internet in the Treatment of Depression

Numerous studies have specifically examined the efficacy of iCBT in the treatment of depression. These include self-guided and/or therapist-assisted online CBT interventions for adults across a range of treatment populations and symptom severity. The following section provides an overview of the research conducted on iCBT intervention for depression in adults by discussing the findings from relevant meta-analyses and systemic reviews. It also discusses the characteristics of internet-delivered CBT interventions for depression and compares the efficacy of therapist-assisted versus self-guided intervention.

Meta-Analyses and Systematic Reviews

Since 2002, a number of meta-analyses and systematic reviews have been conducted to summarise the findings from the research into iCBT interventions for depression and to examine their impact overall. Table 1 presents a summary of nine meta-analyses and systematic reviews of online CBT-based interventions for depression.

Table 1

A Summary of Meta-Analytic Studies Investigating the Efficacy of iCBT for the Treatment of Depression in Adults

Author	Problem area	No. of Ss	No. of studies	Characteristics of included studies	Major findings
Andrews et al. (2010)	Depression Anxiety disorders	1746	22	RCTs with adults randomised to iCBT, TA U, WLC or tCBT.	Overall mean Hedge's *g* ES = 0.88. Mean Hedge's *g* ES for 6 depression-only studies (*N* = 642) = 0.78. iCBT demonstrated long-lasting positive effects for a range of depressive & anxiety disorders. User satisfaction demonstrated. Significant reductions in therapist time.
Barak, Hen, et al. (2008)	Depression Anxiety Pain Weight management Eating disorders Addictions	9764	92	RCTs and pre-test and post-test comparisons of online interventions with more than five participants.	Overall mean Hedge's *g* ES = 0.53. Mean Hedge's *g ES* for the16 depression-only studies (*N* = 2500) = 0.32. Internet-based therapy closely approximates the efficacy of f2f therapy.
Cavanagh & Shapiro (2004)	Depression Anxiety	151	5	Studies comparing iCBT with TAU, WLC or tCBT.	Mean Hedges *g* ES of 1.38. Cost effectiveness analysis revealed iCBT to be

Author	Problem area	No. of Ss	No. of studies	Characteristics of included studies	Major findings
					a cost-effective treatment.
					User satisfaction demonstrated.
Foroushani et al. (2011)	Mild to moderate depression	-	12	RCTs of online treatments.	iCBT interventions can be as effective as tCBT in treating depression, more effective than TAU and equally as effective as bibliotherapy.
					Reduce therapist time in comparison to tCBT.
Griffiths et al.(2010)	Depression Anxiety	-	26	26 RCTs, 8 of which targeted depression.	All 5 depression studies that used a wait-list, TAU or attention placebo CG demonstrated effectiveness in the short and longer-term. These studies demonstrated effect size differences between 0.30-0.53.
					Only 1 of 3 studies that used a psychoeducational intervention as the CG demonstrated effectiveness.
Richards & Richardson (2012)	Depression	10 499	40	23 RCTs 17 non-RCTs	Mean ES for therapist-supported interventions = 1.35 at post-treatment and 1.29 at FU.
					Mean ES for non-therapist supported interventions = 0.95 at post-treatment and 1.20 at FU.
					Mean ES for self-guided interventions = 0.78 at post-treatment and 1.13 at FU.
					Mean drop-out rate = 57%.

Author	Problem area	No. of Ss	No. of studies	Characteristics of included studies	Major findings
					High overall satisfaction ratings.
					Pooled Cohen's *d* ES compared with a control = 0.56 in favour of the iCBT interventions at post-treatment and 0.20 at FU.
					Significant difference in pooled ES between therapist-assisted and self-guided interventions.
Kaltenhaler et al. (2008)	Mild to moderate depression	1353	4	RCTs of iCBT compared with TAU, WLC or tCBT.	Three of the four studies demonstrated effectiveness.
					iCBT is a potentially useful intervention.
					Limited information available on user satisfaction.
Kaltenhaler et al. (2004) and Kaltenhaler et al. (2002)	Depression Anxiety Phobias	-	16	11 RCTs 5 non-RCTs	Non-definitive evidence demonstrating iCBT is as effective as tCBT or TAU.
					Mixed results regarding user satisfaction.
					Reduced therapist time in iCBT.
Spek, Cuijpers et al.(2007)	Depression Anxiety	2334	13	RCTs of iCBT compared with TAU, WLC or tCBT.	Efficacy demonstrated for both online interventions.
					ES larger for online anxiety treatment than depression treatment.
					Inclusion of support increases ES.

Author	Problem area	No. of Ss	No. of studies	Characteristics of included studies	Major findings
Titov (2011)	Depression	5158	13	RCTs of iCBT compared with TAU WLC, tCBT or PST.	Within-group ES in excess of 1.00 are common in iCBT, which is comparable to f2f therapeutic gains.
					Significant improvements in QoL, disability and workforce participation.
					Therapist-assisted interventions produce stronger gains than self-guided interventions.
					Strong outcomes can be achieved with low-intensity interventions provided by people without specialist training.

Note: ES= effect size; f2f= face-to-face; iCBT = internet-based cognitive-behavioural therapy; RCT= randomised controlled trial; Ss = Participants; TAU= treatment as usual; tCBT = traditional CBT; WLC = wait-list control.

In the formative years of iCBT, a paucity of studies existed. Consequently, it was common for meta-analyses and systematic reviews to include a variety of disorders in their analyses. For example, Kaltenhaler and colleagues (2004) and Kaltenhaler and colleagues (2002) published findings from a systematic review examining the clinical effectiveness of iCBT in the treatment of depression, anxiety and phobias. The results from these studies therefore pertained to affective disorders in general, and depression-only analyses were not conducted. However, from 2004 it became increasingly common to include depression-only analyses in meta-analyses and systematic reviews of iCBT interventions for mental health conditions. Furthermore, since 2008, four depression-only systematic reviews or meta-analyses have been published. The number of studies included in these depression-only publications provides an indication of the growth of iCBT interventions for depression. For example, in 2008, Kaltenhaler, Parry, Beverley, & Ferriter included four RCTs in their review of iCBT depression-only interventions. Only four years later, Richards and Richardson (2012) included 19 RCTs in their meta-analysis and 40 studies in their overall review of iCBT interventions for depression.

The results of these reviews consistently indicate that iCBT interventions for depression produce treatment effects comparable to face-to-face therapeutic gains (Andrews, Cuijpers, Craske, McEvoy, & Titov, 2010; Foroushani, Schneider, & Assareh, 2011; Kaltenthaler et al., 2004; Kaltenthaler et al., 2008; Richards & Richardson, 2012; Titov, 2007). Additionally, these reviews consistently indicated that within group effects based on depression outcome measures increase according to the type of therapeutic support provided (Kaltenthaler et al., 2004; Spek, Cuijpers et al., 2007; Titov, 2011). In Titov's 2011 review of iCBT interventions for depression it was however noted that the support provided needs neither to be intensive nor delivered by a trained therapist. This review demonstrated that

strong outcomes can be achieved with low-intensity interventions provided by supervised administrators without specialist training.

These findings were confirmed in the most recent systematic review and meta-analysis of computer-based psychological treatments for depression conducted by Richards and Richardson (2012). The results of this review indicated that for self-guided interventions the mean post-treatment effect size was $d = 0.78$, and at follow-up $d = 1.13$. The mean post-treatment effect size for administrative-supported interventions was $d = 0.95$ and at follow-up $d = 1.20$. Therapist-supported interventions demonstrated a mean post effect size of $d = 1.35$ and at follow-up $d = 1.29$. Drop-out rates were also found to vary according to the type of support provided. These rates for the no support, administrative-supported and therapist-supported interventions were respectively 74%, 38.4% and 28%. Further information regarding comparisons between supported and self-guided interventions is provided later in this chapter.

In addition to demonstrating the efficacy of gCBT interventions for depression, these reviews and meta-analyses also provided evidence to support their cost-effectiveness (Cavanagh & Shapiro, 2004) and reductions in therapist time (Andrews et al., 2010; Foroushani et al., 2011; Kaltenthaler et al., 2004; Kaltenthaler et al., 2002). Furthermore, high user satisfaction was demonstrated across a range of studies (Andrews et al., 2010; Cavanagh & Shapiro, 2004; Richards & Richardson, 2012).

The results from these nine reviews and meta-analyses provide strong evidence supporting the effectiveness and efficacy of iCBT interventions for depression. Self-guided interventions typically demonstrate moderate effect sizes and may be an ideal first step in a managed-care approach. However, supported interventions produce stronger treatment gains and lower rates of attrition and are generally considered to be more appropriate than self-

guided interventions for more severe presentations. Comparisons between supported and self-guided interventions will be explored in greater depth later in this chapter. The convenience and cost-effectiveness of online interventions provides adults with depression with an accessible and affordable treatment option that likely produces therapeutic gains maintained over time. It should be noted that the studies included in these reviews and meta-analyses generally excluded individuals with severe depression. This is important as although participants in many studies are randomly allocated to different treatments in RCTs, individuals who are eligible to participate in these studies are not necessarily representative of seriously mentally ill populations, thus limiting the generalisability of these findings. In addition, these studies used self-selected participants, further increasing the sampling bias.

Characteristics of iCBT Interventions for Depression

An analysis of the studies included in the above-mentioned systematic reviews and meta-analyses reveal a number of common themes of iCBT interventions for depression. The following section explores these key themes, namely treatment populations, intervention length, and content and structure. It also compares self-guided and therapist-assisted interventions. Table 2 summarises the key features of the studies reviewed in this analysis.

Treatment populations. iCBT interventions have successfully reduced depressive symptoms across a range of treatment populations. To obtain a sample representative of the general population, some studies stipulated no inclusion or exclusion criteria beyond being an adult with depressive symptoms (Clarke et al., 2005; Meyer et al., 2009; van Straten, Cuijpers, & Smits, 2008; Warmerdam, van Straten, Twisk, Riper, & Cuijpers, 2008). These interventions therefore included individuals with severe depressive symptoms. The results

Table 2

A Summary of the Characteristics of Studies Investigating the Efficacy of iCBT for the Treatment of Depression in Adults

Author(s)	Sample Characteristics	Study Characteristics	Length	Structure & Contents	Findings
Andersson et al. (2005)	117 adults. Mild to moderate depression. No history of receiving CBT.	RCT investigating asynchronous TA iCBT intervention with a WLC receiving access to a moderated online discussion group.	5 modules -suggested completion time of 8 weeks.	Quiz at the end of each module with feedback provided by therapist. BA, CR, sleep, physical health, RP.	TG demonstrated significant reductions in depressive symptoms compared with WLC. Treatment gains maintained at six-month FU. Between-group Cohen's d = 0.94 on primary depression measure.
Bergstrom et al. (2003)	85 adults. Mild to moderate depression	RCT investigating SG iCBT intervention with a WLC.	Not stated.	PE, BA, CR, sleep, physical health, RP.	TG significantly improved on depressive symptoms in comparison to WLC. Treatment gains maintained at six-month FU. Between-group overall $d =$ 0.89 Time & cost effectiveness demonstrated.
Christensen et al. (2004)	525 adults with increased depressive symptoms. Community sample.	RCT comparing self-paced CBT intervention (MOODGym), a PE website and an	5 interactive modules made available sequentially on a weekly basis. 1 revision session.	CBT-based content including CA & LM.	Both CBT & PE interventions effectively reduced depression. CBT reduced dysfunctional thinking. PE increased knowledge of

Author(s)	Sample Characteristics	Study Characteristics	Length	Structure & Contents	Findings
	Not receiving treatment.	attention placebo CG.	6 sessions in total.		evidence-based treatments. Treatment gains maintained at 6 and 12-month FUs. Pre-post ES for completers were 0.95 (CBT), 0.75(PE), 0.25 (CG).
Clarke et al. (2009)	160 young adults (18-24).	RCT comparing self-guided ODIN intervention with TAU CG.	4 sections in website: • Mood rating • PE • Journal • CBT skills	Interactive website. Postal reminders. CR, BT.	Those more depressed at post-treatment were more likely to complete the intervention. Greater depressive symptom reduction was associated with lower rates of intervention usage. ITT between-group $d = 0.20$ in favour of TG for changes in depressive symptoms from pre-treatment to 32- week FU.
Clarke et al. (2005)	255 adults. Community sample.	RCT comparing self-guided ODIN intervention with TAU CG.	7 modules.	Interactive website. Postal/telephone reminders. CBT-based skills focussing on CR & BT.	Statistically & CS differences between TG & CG on depression when reminders were issued. ITT between-group $d = 0.28$ in favour of TG for changes in depressive symptoms ES = 0.54 for participants severely depressed at pre-treatment.

Author(s)	Sample Characteristics	Study Characteristics	Length	Structure & Contents	Findings
de Graaf et al. (2009)	303 adults aged 18-65. Primary care population. At least mild to moderate depressive symptoms.	RCT comparing self-guided Colour Your Life intervention, TAU by a GP & Colour Your Life and TAU combined.	8 modules/ week 1 booster module	PE, CR, behaviour change, RP. Homework assignments Combination of text, video, exercise & figures.	No significant differences in outcome between 3 groups. Medium to large pre-post ES (0.57-0.71) for all 3 groups. Large 6-month FU ES (0.81-0.86) for all 3 groups Small trend in favour of combination group observed for reliable & CS change. iCBT may not be as effective for those with severe symptoms as those with sub-threshold or mild to moderate symptoms. Therapist support may increase treatment effect.
Doherty et al. (2012)	45 adults Minimal to severe depressive symptoms	Pre-post design investigating asynchronous TG MindBalance intervention.	8 modules	CBT-based skills including CR, core beliefs & mood-monitoring. Therapists provided weekly feedback on exercises. Weekly progress reviews.	Large pre-post $d = 1.59$. Levels of engagement comparable to more resource-intensive interventions. Well-accepted by participants & clinicians.

Author(s)	Sample Characteristics	Study Characteristics	Length	Structure & Contents	Findings
Holländare et al. (2011)	84 adults. Partially remitted depression. Not receiving psychotherapy.	RCT comparing asynchronous TA iCBT intervention & a CG.	10 week period 9 mandatory, fixed-order modules. 7 optional modules	BA, CR, relapse prevention strategies & skills. Homework. Email guidance from therapist regarding homework & participation prompts.	Significantly reduced rate of relapse in TG compared with CG. Non-significant trend towards a higher rate of remission in TG. TG experienced larger reductions in depressive symptoms compared with CG over time. Between-group d = 0.29-0.33 in favour of TG for changes in outcome measures. Cost-effectiveness & accessibility noted.
Johansson et al. (2012)	121 adults with mild to moderate MDD & comorbid symptoms. Stable medication &/ not currently receiving psychotherapy.	RCT comparing tailored iCBT, standardised iCBT & active CG (participation in moderated online discussion group).	Tailored CBT – selection of 25 modules over 10 weeks	Individual treatment plan with CBT-based treatment material covering depression, anxiety, worrying, relaxation, mindfulness & PS. E-mail feedback by therapist	Large between-group d favouring tailored treatment over control at post-treatment. Moderately large Cohen's d between-group ES favouring standardised treatment over control at post-treatment. No significant differences between TGs overall.
			Standardised treatment- 8 modules over 10 weeks	BA, CR, CR, sleep management, RP. E-mail feedback by	Treatment effects in tailored cBT were significantly larger than those for standardised & control for participants with

Author(s)	Sample Characteristics	Study Characteristics	Length	Structure & Contents	Findings
				therapist.	more severe pre-treatment depressive symptoms.
Kessler et al. (2009)	297 adults experiencing a new depressive episode. Primary care population 2/3 of participants self-reported severe depressive symptoms.	RCT comparing synchronous TG iCBT intervention with WLC.	Maximum of 10 sessions. Session length = 55 minutes.	Registered psychologist experienced in online delivery provided a CBT-based therapy.	ITT analyses revealed iCBT group more likely to recover from depression at 4 months WLC. Treatment gains in TG maintained at 8 months. Between-group ES for improvement in depressive symptoms, functional health status & QoL ranged from 0.70-0.81 in favour of TG. Greatest effect demonstrated for those with most severe pre-treatment symptoms.
Meyer et al. (2009)	396 adults. General population. No inclusion/ exclusion criteria.	RCT comparing SG Deprexis intervention & WLC.	10 modules. Maximum module completion time = 1 hour.	BA, CR, mindfulness & acceptance strategies, IP skills, LM, PS, schema therapy, PE. Information, diagrams, illustrations & activities. Content tailored to individual need.	ITT analyses demonstrated that compared with WLG, those assigned to TG experienced significant reductions in depressive symptoms ($d = 0.64$) & significant improvements in social functioning ($d = 0.64$). A higher percentage of TG participants experienced significant reductions in their depressive symptoms &

Author(s)	Sample Characteristics	Study Characteristics	Length	Structure & Contents	Findings
					recovered more often than CG participants.
					Treatment effects maintained after 6 months.
					Over 80% of the TG participants were generally satisfied with the program.
Perini, Titov & Andrews (2009)	45 adults. Mild to moderate depression. Not receiving CBT.	RCT comparing asynchronous TG Sadness Programme and & WLC.	6 online lessons & homework assignments delivered every 7-10 days. Maximum of 9 weeks.	BA, CR, PS, assertiveness skills. Post messages & homework activities on an online discussion forum. E-mails from therapist to reinforce participation, enquire about progress & respond to questions.	TG demonstrated significant improvements in depressive symptomatology & higher rates of recovery compared with WLC. 82% of program completers reported being *very satisfied* or *mostly satisfied* with the overall treatment. All participants rated the quality of the therapist support & the treatment modules as *excellent* or *good*.
Pernini, Titov & Andrews (2008)	13 adults. Mild to moderate depression. Not receiving CBT.	Open design pilot study investigating asynchronous TG Sadness Programme.	As above.	As above.	ITT analyses demonstrated statistically significant improvements in depressive symptoms, psychological distress, anxiety & disability. Moderate to large ES ranging from 0.60-1.12. 2/3 of the participants reported

Author(s)	Sample Characteristics	Study Characteristics	Length	Structure & Contents	Findings
					being *very satisfied* or *mostly satisfied* with the overall treatment.
					All participants rated the quality of the therapist support & the treatment modules as *excellent* or *good.*
Pittaway et al. (2009)	100 adults. Mild to moderate depression, mixed anxiety and depression/ an anxiety disorder. GP-referred, community sample. Not receiving psychotherapy.	RCT comparing SG Living Life to the Full intervention with an offline CBT workbook & an offline computerised CBT program.	13 modules, first is compulsory & others are picked according to individual need. Modules last 45-60 minutes. Support calls at week 2 & 4.	PS, BA, medication education, CR, LM, RP.	No significant difference in outcome at post-treatment and 6-month FU between 3 groups. Significant improvement in psychological distress for all 3 groups that were maintained at 6-month follow-up. iCBT found to be effective in the treatment of depression and/or anxiety for patients in general practice. Strong acceptability ratings.
Ruwaard et al. (2009)	54 adults. Chronic & mild to moderate depression.	RCT comparing asynchronous TA iCBT intervention with WLC.	8 modules. Approximately 11 weeks to complete. 22-44 hours in total.	CR, positive self-verbalisation, social skills, BA, RP. Homework activities based on an interactive workbook.	Between-group *d* for improvement in depressive symptoms of 0.91 in favour of TG. Effects be stable at 18-month FU.

Author(s)	Sample Characteristics	Study Characteristics	Length	Structure & Contents	Findings
				Therapist provided feedback on this workbook.	Average satisfaction rating of 77%.
					88% rated therapist relationship as being pleasant.
					89% indicated not missing f2f contact.
Robertson et al. (2006)	114 adults. Major depressive episode.	Pre-post design investigating the efficacy of synchronous TA RecoveryRoad iCBT intervention.	Maximum of 12 online sessions over 12 months. Graduated sessions- initially weekly then decrease in frequency.	Online consultation between therapist & participant, PE &progress reports. E-mail & telephone reminders to use the system.	Large reductions ($d = 1.03$) in depression severity scores for the participants who completed 8/more sessions. 58% of participants achieved sub-clinical levels of depressive symptomatology by the 8th session. High satisfaction levels from both participants & therapists.
Spek et al. (2008)	301 adults over 50. Sub-threshold symptoms of depression.	RCT comparing 1-year outcomes of SG Colour Your Life intervention with f2f GT and WLC.	1 module per week over 8 weeks. 1 booster module.	PE, CR, behaviour change, RP. Text, video, exercises & figures. Homework activities.	1 year after of treatment commencement, iCBT intervention was significantly more effective than WLC in treating sub-threshold depressive symptoms. Although non-significant, the 1-year improvement ES of the iCBT intervention was larger ($d = 1.03$) than the corresponding ES for the f2f

Author(s)	Sample Characteristics	Study Characteristics	Length	Structure & Contents	Findings
					GT intervention ($d = 0.78$)
Spek, NyklÍCek, et al. (2007)	As above	RCT comparing SG Colour Your Life intervention with f2f GT and WLC.	As above	As above	iCBT condition demonstrated $d =1.00$, which was larger than the f2f GT condition ($d = 0.65$) and WLC ($d = 0.45$).
					A significant number of participants in the two TGs achieved CS changes in functional status from moderate to serious depressive symptoms at pre-treatment to mild symptoms at post-treatment.
Titov et al. (2011)	Transdiagnostic sample. 77 adults with MDD, generalised anxiety disorder, social phobia/ panic disorder. No psychological treatment.	RCT comparing asynchronous TG Wellbeing program & WLC.	8 online lessons	PE, CR, BA, RP, overcoming treatment barriers, graded exposure Homework activities Moderated online discussion forum Weekly e-mail therapist from therapist Reminder emails	Post-treatment between-group d ES = 0.58 in favour of TG for reduction in depressive symptoms. Significant differences between groups at post-treatment for remission & recovery, maintained at 3-month FU. 93% of treatment completers reported being either *very satisfied* or *mostly satisfied* with the intervention.
van Straten et al. (2008)	107 adults. General population.	RCT comparing asynchronous TG	4 weeks.	PS Homework activities	iCBT intervention had statistically & CS effects on

Author(s)	Sample Characteristics	Study Characteristics	Length	Structure & Contents	Findings
	No inclusion/ exclusion criteria.	iCBT intervention & WLC.		Weekly e-mail feedback from therapist.	depressive & anxiety symptoms. Significantly improved QoL. Effects largest for treatment completers and those with most severe symptoms at pre-treatment. Between-group d favouring TG ranged between 0.56-0.67 on the depression measures.
Vernmark et al. (2010)	29 adults with depression. No psychological treatment.	RCT comparing asynchronous TG iCBT intervention and WLC.	7 modules. 1 module per week.	CBT conceptualisation, BA, CR, sleep management, RP. Quiz after each module. E-mail feedback after quiz by therapist. E-mail reminder to participate.	Compared with WLC, TG displayed significant improvements at post-treatment, which were maintained after 6 months. Between-group d at post-treatment = 0.56 favouring TG. 83% of those in TG no longer fulfilled criteria for MDE & achieved reliable change at post-treatment
Warmerdam et al. (2008)	263 adults with depressive symptoms.	RCT comparing asynchronous TG Coping with Depression intervention, online PS intervention and WLC.	Weekly modules over 8 weeks. 1 booster module 12 weeks later.	PE, relaxation, CR, SS, BA. Information, exercises, audio-visual aids. E-mail support	Both online interventions achieved significant reductions in depressive symptoms. Between-group d favouring TG = 0.54 at post-treatment

Author(s)	Sample Characteristics	Study Characteristics	Length	Structure & Contents	Findings
				within 3 days of module completion by therapist.	and 0.69 at 3-month FU. Significantly greater number of TG participant's experienced CS change at post-treatment & FU compared with WLC.

Note: BA= behavioural activation; BT = behavioural therapy; CBT= cognitive-behavioural therapy; CA = cognitive adaptation; CS = clinically significant; CR = cognitive restructuring iCBT = internet-delivered cognitive-behavioural therapy; CG = control group; f2f= face-to-face; FU = follow-up; GT = group therapy; ITT = intention-to-treat; IP = interpersonal; LM = lifestyle modification; MDD= major depressive disorder; PE= psychoeducation; PS = problem-solving; RP = relapse prevention ; RCT= randomised controlled trial; QoL = Quality of life; SG = self-guided ; SS= social skills; TA = therapist-assistance; TG = treatment group

were mixed. Clarke and colleagues partly attributed their modest (but clinically and statistically significant) symptom reduction to the inclusion of participants with severe depression. However, van Straten and colleagues reported that treatment effects in their intervention were largest for those whose symptoms were most severe at pre-treatment. Doherty, Coyle, and Sharry (2012) demonstrated very large pre-post effect sizes for their intervention, which included participants with severe depressive symptoms. Additionally, these participants engaged at high levels. Clarke and colleagues' intervention was self-guided whilst Doherty and colleagues', van Straten and colleagues' and Warmerdam and colleagues' interventions were all therapist-assisted. Warmerdam and colleagues suggested that regardless of severity of depression, the inclusion of even minimal levels of therapist assistance can improve outcomes for online depression interventions. This notion will be further explored in the upcoming section comparing self-guided and therapist-assisted interventions.

iCBT interventions commonly exclude those with severe symptoms of depression, including those experiencing mild to moderate depression. These interventions consistently demonstrate significant reductions in depressive and associated symptoms that are maintained over time (Andersson et al., 2005; Bergstrom et al., 2003; Perini, Titov, & Andrews, 2008; Perini et al., 2009; Pittaway et al., 2009; Ruwaard et al., 2009). This provides strong evidence of the ability of both self-guided and therapist-assisted iCBT interventions to treat individuals with mild to moderate depression.

Depression is used to describe a heterogeneous set of disorders. As such, individuals experiencing a range of depressive conditions, such as major depressive disorder, persistent depressive disorder or postnatal depression can provide elevated symptoms on depression outcome measures. The studies cited thus far did not screen for type of depressive disorder.

Therefore, individuals with a range of depressive disorders likely participated in this research. Four studies however only included those experiencing a MDE (Johansson et al., 2012; Perini et al., 2008; Perini et al., 2009; Robertson, Smith, Castle, & Tannebaum, 2006). These studies all reported on therapist-assisted interventions and demonstrated the ability of these interventions to treat a MDE. The study conducted by Johannson and colleagues demonstrated that tailored treatments were significantly more effective than the standardised treatment for participants with higher pre-treatment symptoms of depression. This implies that individuals with more severe levels of depression may benefit from a more personalised approach to iCBT. As different depressive disorders may exhibit varying responses to CBT (National Collaborating Centre for Mental Health, 2010), it would be useful for future research to investigate specifically the impact of iCBT on depressive disorders apart from major depression.

Recognising that individuals with depression commonly experience comorbid disorders, Titov and colleagues (2011) examined the efficacy of the transdiagnostic Wellbeing program to treat participants with major depression, generalised anxiety disorder, panic disorder, and/or social phobia. This RCT demonstrated that the treatment group experienced significant improvements relative to the control group on their symptoms of depression, anxiety and overall psychological distress. In general, treatment gains were maintained at three-month follow-up. This study demonstrates that a wide range of individuals may derive support from iCBT and supports for the efficacy of transdiagnostic iCBT in the treatment of affective disorders.

To isolate the treatment effects of iCBT interventions on depression, certain studies included participants who were not in receipt of any treatment other than medication at the time that the research was conducted. These studies unanimously demonstrated the ability of iCBT to reduce depressive symptoms at post-treatment and over the longer-term (Andersson

et al., 2005; Christensen, Griffiths, & Jorm, 2004; Holländare et al., 2011; Johansson et al., 2012; Titov et al., (2011); Perini et al., 2008; Perini et al., 2009; Vernmark et al., 2010). This provides evidence of the ability of iCBT to provide effective stand-alone or adjunctive depression treatments.

Three studies have investigated the efficacy of iCBT in primary care populations. Participants in all three studies were based in the community and referred for participation by their GP (de Graaf et al., 2009; Kessler et al., 2009; Pittaway et al., 2009). The results from these studies reported significant improvements at post-treatment that were maintained over the longer-term. These studies demonstrate the ability of iCBT interventions to be utilised in a GP-managed stepped-care approach. However de Graaf and colleagues cautioned against the use of iCBT in those with severe depression as greater treatment effects were typically observed in individuals with milder symptoms.

iCBT intervention studies in adult populations generally stipulate only that participants need to be aged 18 or over. A substantial body of research has therefore emerged demonstrating the effectiveness of iCBT to treat depression across a range of adult age groups. Two studies have however investigated the effect of iCBT on specific age groups. Clarke and colleagues (2009) conducted a randomised trial of a pure self-help site for young adults aged 18-24 with self-reported depression known as ODIN (Overcoming Depression on the Internet). Intention-to-treat (ITT) analyses revealed significant between-group effect size of 0.20 favouring the iCBT intervention over TAU for changes in depressive symptoms from pre-treatment to 32-week follow-up. Female participants experienced a moderate effect size of 0.42.

On the other end of the age spectrum, Spek, NyklÍCek and colleagues (2007) examined the ability of iCBT to treat sub threshold symptoms of depression in people aged over 50 years. Results indicated that individuals in the self-guided 'Colour Your Life' iCBT

intervention were significantly more improved at post-treatment than those in the WLC, with a large effect size of 1.00. The iCBT intervention also compared favourably to a face-to-face gCBT intervention that formed a third treatment arm of this study. The authors concluded that older adults with sub threshold symptoms of depression are likely to derive at least as much benefit from self-guided, online CBT interventions than face-to-face group therapy.

In 2008, Spek and colleagues analysed the study's long-term outcomes. Results indicated that one year after treatment commencement, iCBT was significantly more effective than WLC in treating sub threshold symptoms of depression in adults aged 50 and over. Furthermore, although not statistically significant, the 1-year improvement effect size of the iCBT intervention was larger ($d =1.03$) than the corresponding effect size for the group therapy intervention ($d =0.78$). The collective results from these three studies evidence the ability of iCBT to treat depression in adults of all ages.

Recognising that individuals with partially remitted symptoms are at risk of a depressive relapse, Holländare and colleagues (2011) investigated the ability of iCBT to treat residual symptoms and prevent relapse. Individuals in the treatment group received an iCBT intervention with asynchronous therapist support. Those in the control group received non-specific e-mail support from a therapist. The treatment group experienced significantly reduced rates of relapse compared with the control group. Only 10.5% of those who received the iCBT intervention experienced relapse at the six-month follow-up compared with 37.8% of those in the control group. Although non-significant, a trend towards a higher rate of remission in the treatment group was found. Additionally, those in the treatment group experienced larger reductions in depressive symptoms over time. The authors concluded that this type of treatment holds promise for reducing rates of relapse of depressive episodes. Furthermore, they noted that its cost-effectiveness and accessibility provides the potential to treat more individuals than maintenance CBT conducted face-to-face.

In summary, an emerging body of empirical research evidences the ability of iCBT interventions to treat depression in a range of populations. These include individuals in the general community, primary care populations under GP management, those receiving iCBT as an adjunctive or stand-alone treatment and adults across the age spectrum. Evidence suggests that iCBT can treat a MDE, sub-threshold depressive symptoms and partially remitted depression. There is strong evidence suggesting that both self-guided and therapist-assisted interventions can treat mild to moderate depression. Further research is required to determine the suitability of this treatment modality for individuals with severe depression.

Intervention Length. Whether self-guided or therapist assisted, iCBT interventions tend to be brief, ranging from four (van Straten et al., 2008) to 13 modules (Pittaway et al., 2009). These modules are typically made available sequentially on a weekly basis. RecoveryRoad, a therapist-assisted intervention providing synchronous support, uniquely offers graduated sessions.

The majority of interventions provide a fixed set of compulsory modules that participants work through at their own pace. However, some interventions are either customised according to individual need or allow participants to pick modules most relevant to them. For example, in the 'Living life to the full' intervention (www.livinglifetothefull.com), the first module is compulsory and the user can pick the remaining ones that are relevant (Pittaway et al., 2009). Similarly, Holländare and colleagues (2011) describe a therapist-assisted intervention that has nine mandatory modules that need to be completed in a fixed order and seven optional modules. The Deprexis intervention, a ten-module, self-guided program, allows for the content of the intervention to be tailored to individual need (Meyer et al., 2009). Additionally, Johannson and colleagues (2012) reported on a tailored intervention that devised treatment plans based on the participants' baseline

clinical interview and results from their self-report measures. In this study, the individuals who benefitted most from the tailored intervention were those with the highest levels of baseline depressive symptoms.

iCBT interventions for depression can effectively reduce symptoms in a relatively short space of time. This increases both cost-effectiveness and treatment capacity (Hazlett-Stevens & Craske, 2005). This is particularly important in regions with shortages of qualified CBT professionals or treatment access is limited (Van Den Berg, Shapiro, Bickerstaffe, & Cavanagh, 2004).

Content and structure. The content of iCBT interventions fits closely within traditional CBT paradigms. As such, these interventions typically provide a combination of psychoeducation, cognitive restructuring techniques, behavioural activation and lifestyle modification, social skills training and relapse prevention techniques. The four-week therapist-assisted intervention described by van Straten and colleagues (2008) is a notable exception in that the intervention focusses primarily on problem-solving, a small but important component of CBT (Dobson & Dozois, 2012). The Deprexis intervention uniquely provides a variety of therapeutic approaches in addition to CBT strategies including schema therapy, mindfulness and acceptance strategies and interpersonal skills training (Meyer et al., 2009).

iCBT interventions typically take advantage of the interactive nature of this medium. As such, the content of the interventions are commonly presented using a combination of text, figures, video and exercises. Interventions such as the Sadness Programme, an asynchronous therapist-assisted program, allow participants to post anonymously messages and homework activities on a moderated online discussion forum (Perini et al., 2008). Other interventions allow participants to complete homework activities in an interactive workbook.

This is advantageous as it increases user participation, creates a permanent record of the activities undertaken and allows for therapists to asynchronously review the activities and provide feedback (Ruwaard et al., 2009). The MindBalance program was specifically designed to be as interactive as possible to maximise participant engagement. As such, participants can respond to content and have this feedback reviewed by their therapist. This program also provides immediate feedback to the participant by updating their 'to do' list and unlocking new activities as tasks are completed (Doherty et al., 2012).

Therapist-assisted interventions commonly provide asynchronous support delivered generally via e-mail. It focusses on providing positive reinforcement, encouragement and clarification about the intervention's content (Andersson et al., 2005; Doherty et al., 2012; Holländare et al., 2001; Perini et al., 2008; Perini et al., 2009; van Straten et al., 2008; Warmerdam et al., 2008). However, Robertson and colleagues (2006) and Kessler and colleagues (2009) reported on interventions that provided synchronous support to participants using online chat rooms. Studies on the above-mentioned interventions reported significant reductions in depressive symptoms and large effect sizes, demonstrating the effectiveness of both the synchronous and asynchronous approaches.

Comparison between therapist-assisted and self-guided online interventions.

A large body of research evidence demonstrates the efficacy, effectiveness and acceptability of iCBT for depression. These interventions vary widely in the type and amount of support provided. It is therefore useful to establish the relative strengths and limitations of self-guided and therapist-assisted online interventions.

A review by Titov (2011) found that guided online psychotherapy demonstrates effect sizes comparable to face-to-face treatment. In comparison, self-guided interventions generally demonstrate more modest effect sizes and lower completion rates. A possible

danger of these low completion rates is that clients may decide that therapy is unhelpful and be discouraged from seeking further assistance (Palmqvist, Carlbring, & Andersson, 2007). Meta-analyses conducted by Spek, Cuijpers and colleagues (2007) and Newman, Szkodny, Llera, and Przeworski (2011) concluded that programs with therapist assistance had greater effect sizes compared with programs without therapist assistance. However, the cost-effectiveness of self-guided interventions makes them a promising resource for motivated clients.

Recognising the need for a direct experimental comparison between self-guided and therapist-assisted iCBT interventions for depression, Berger, Hämmerli, Gubser, Andersson, and Caspar (2011) conducted an RCT to compare the impact of a self-help version of the Deprexis intervention (Meyer et al., 2009) with a low-intensity therapist-assisted version providing weekly scheduled e-mail feedback from the therapist. Both treatment interventions were compared with a WLC. Results indicated that at post-treatment, both the self-help and therapist-assisted groups demonstrated significantly greater reductions in their depressive symptoms than the WLC. No significant differences between the two treatment interventions were found. However, the between-group effect size at post-treatment for therapist-assisted versus WLC ($d = 1.14$) was larger than the corresponding effect size for self-guided ($d = 0.66$). At six-month follow-up, the within-group effect sizes were once again larger for the therapist-assisted ($d = 1.26$) than the self-guided ($d = 0.95$) interventions. Although not significant, a medium effect size ($d = 0.54$) favouring the therapist-assisted intervention was demonstrated for treatment satisfaction. The authors noted that the lack of statistical significance between the two interventions may partly be accounted for by the low levels of therapeutic assistance. This assistance mainly served to motivate participants to continue with the intervention and did not provide individualised support. The differences in effect

sizes between the two interventions do however suggest that even low levels of therapeutic intervention can improve treatment gains.

Titov (2007) suggests that therapists motivate clients, reinforce their progress and encourage further efforts, which may in turn enhance the impact of the intervention. Therapists can also take a more active role in the online therapy and provide continuous and individualised support. Although this approach requires more therapist time and increases treatment costs, it may be necessary for clients who lack motivation or exhibit chronic problems. Titov did however argue that therapist support need not be intensive and can be provided by people without specialised training. Minimal contact therapist interventions typically consist of therapists providing reminders to their clients or motivation to continue to use the program (Palmqvist et al., 2007). The ODIN intervention provides an effective example of this treatment approach, with participants who received this type of therapist assistance demonstrating significant improvements and those without assistance deriving no benefit (Clarke et al., 2005). As demonstrated by Titov and colleagues (2010), much of this client contact and support can be delegated to non-clinical staff members without loss of efficacy.

Therapist-support may not however be of additional benefit to individuals who are motivated to seek help themselves. For example, Farrer, Christensen, Griffiths, and Mackinnon (2011) conducted a RCT to evaluate the impact of providing weekly telephone support in an iCBT intervention to reduce depression in callers of a helpline service. These callers are characterised by their preference to treat themselves, manage their own health, and retain control over their treatment. Results indicated that the inclusion of weekly telephone support did not significantly enhance the impact of the intervention. Furthermore, the increased support was associated with decreased participant retention. The authors suggested that these individuals may have viewed the telephone contact as intrusive as they prefer to

remain as autonomous as possible in their treatment management. Additionally, the standardised and non-clinical nature of the support provided may potentially account for the study's findings.

Therapist-assisted iCBT interventions effectively reduce depression in a range of populations. However, the addition of a clinician decreases their cost-effectiveness. Furthermore, as trained CBT therapists are typically in short supply, the availability of therapist-assisted iCBT interventions may also be limited (Titov et al., 2009). One strategy to overcome these difficulties is to delegate the majority of client contact in iCBT interventions to non-clinical technicians who are supervised by clinicians. This has proved to be an effective and satisfactory option for individuals accessing iCBT interventions to treat anxiety disorder and social phobia (Robinson, Titov, Andrews, McIntyre, & Schwenke, 2008; Titov, Andrews, Choi, Schwencke, & Johnston, 2009; Titov, Andrews, Schwencke, et al., 2009).

In 2010, Titov and colleagues conducted a RCT to compare the clinical efficacy and acceptability of a clinician versus technician-assisted version of the Sadness Programme. One hundred and twenty seven adults with a depressive disorder were randomised to the technician-assisted group, clinician-assisted group or WLC. Those in the technician-assisted group were supported to complete the intervention with the assistance of a non-clinical technician who contacted participants weekly via phone or email to provide non-clinical encouragement and support. The technician also answered the participants' general questions by referring them to material within the Sadness program. Those in the clinician-assisted group received support from a trained therapist, who actively engaged with the participants and assisted them with goal setting, problem solving and overcoming obstacles. Those in the WLC received access to the clinician-assisted Sadness Programme at the conclusion of the trial. Results indicated that outcomes at post-treatment for both treatment groups were superior to the WLC. Both treatment groups demonstrated effect sizes $\geq d = 1.20$ on the

depression outcome measures and approximately 50% of those in the treatment groups achieved reliable clinical change. Importantly, no significant differences between the two treatment groups in efficacy or acceptability were reported, and similar contact times were observed for the technician compared with the clinician. The four-month follow-up outcomes were largely stable. However, the between-group effect size of 1.89 in the technician-assisted group was larger than the effect size of 1.11 observed in the clinician-assisted group. The authors concluded that technician-assisted iCBT interventions have the potential to provide affordable, effective and acceptable treatment for depression. The use of non-clinical technicians has however only been validated for interventions providing low levels of asynchronous support. The impact of using non-clinical technicians in interventions providing high levels of synchronous support remains unknown. Additionally, individuals with severe depressive symptoms, suicidal ideation or comorbid disorders were excluded from Titov and colleagues' study. This study therefore did not cater towards those with more severe depressive profiles and it remains unclear whether non-clinical technicians can provide effective assistance to this particular client group.

In summary, self-guided interventions are cost-effective and suitable for treating motivated clients who do not present with chronic issues. Minimal assistance by a therapist or technician in the form of reminders and encouragement can significantly increase the effectiveness of an online intervention whilst intensive therapist assistance brings about the greatest treatment effects. Individuals with more severe depressive profiles are also more likely to benefit from therapist-guided, synchronous support.

Online Group Therapy

Online CBT has developed a substantial body of research demonstrating its worth as a cost-effective and accessible treatment for individuals affected by depression. However,

internet-delivered therapy need not be limited to individuals. As mentioned in Chapter 1, face-to-face group therapy is an effective treatment for depression. Given that individual interventions have successfully been adapted for online use, the possibility of online group therapy for depression should be considered. Although still in its infancy, online group therapy is emerging as a viable treatment option across a range of psychological concerns. Online group therapy can be delivered synchronously or asynchronously. Synchronous therapy is delivered in real-time using an online chat-room. Group members read and respond to each other's messages in real time. The size of the group therefore needs to be limited to afford every member a chance to participate. Asynchronous therapy is delivered using a discussion room format, where members create and contribute to threads, or topic of conversation. These threads are available over long periods of time, allowing group members to communicate and interact with each other at a time most convenient to them (Abell & Galinsky, 2002).

Affordances of Online Group Therapy

A major affordance of online versus face-to-face groups is the anonymity they afford. This may increase self-disclosure amongst group members and allow members to communicate without being judged about their age, race, disability or social status (Finn, 1999). Compared with face-to-face groups, where woman outnumber men and men tend to be more reserved (Luke, Roberts, & Rappaport, 1993), Salem (1997) reported that men and women participate equally in online support groups for depression (Luke et al., 1993). It thus appears that online intervention may be particularly beneficial for men with depression.

As with face-to-face group therapy, online therapy provides opportunities for support and feedback amongst group members. However, online environments can potentially create a very different atmosphere to that typical of face-to-face therapeutic groups. To date, little

research has been conducted on online therapeutic group and their implications for online group therapy. However, Weinberg (2001) researched online group processes and phenomena more broadly such as boundaries, cohesion, transference, scapegoating and the role of the group facilitator. It was concluded that discussions within internet groups resemble those of a small group regardless of their actual size. Online groups tend to create their own implicit or explicit boundaries, which can foster security and a sense of security. In general, online discussion groups achieve feelings of openness, a sense of belonging and cohesion. This is encouraging as groups that are higher in cohesion experience greater therapeutic gains (Yalom, 1995).

The online disinhibition effect may encourage group members to communicate more freely and candidly than they would in face-to-face groups. These increased levels of honesty and self-disclosure may be helpful in fostering group bonding and interpersonal intimacy, which could in turn accelerate and reinforce therapeutic gains within the online group (Suler, 2004). Online groups that do not include video technology may also neutralise status evaluations, as participants are unable to make judgements related to physical appearance, ethnicity, wealth or gender. Consequently, all group members are likely to commence the treatment with equal levels of perceived power and status. This may encourage self-disclosure and respect within the group (Barak, Boniel-Nissim, & Suler, 2008).

According to Finfgeld (2000), online groups are further advantageous as dependency on fellow group members appears to be less likely to occur in an online environment rather than face-to-face environments. Furthermore, this author states that online groups potentially reduce impulsive, reactive or destructive comments. This is because group members have to take time to write a response and that response is recorded for other group members to see. However, the online disinhibition effect that causes individuals to feel more uninhibited and

express themselves more openly (Suler, 2004) may lead to rude language, harsh criticisms and actions that disrupt the group's cohesion (Barak, Boniel-Nissim, et al., 2008). These groups therefore need to be carefully monitored to ensure they remain supportive and helpful.

Houston, Cooper, and Ford (2002) demonstrated that online depression support groups provide a valuable source of social support to socially isolated individuals, foster a sense of empowerment amongst group members and assisted to reduce depressive symptoms. Supportive online group environments may therefore be ideally placed to treat depression, particularly for individuals who also experience social isolation.

Challenges of Online Group Therapy

Online group therapy presents a number of additional potential challenges. As discussed previously, the lack of visual cues present in some forms of online communication can be therapeutically beneficial. However, this affordance can also make it difficult to detect nuances of conversation. Consequently, it is easy for misinterpretations to occur (Finfgeld, 2000). Communication can however be clarified through the use of paralanguage such as emoticons and abbreviations of words indicating actions such as LOL (laugh out loud) (Haug, Sedway, & Kordy, 2008).

Whilst online group therapies address the interpersonal problems associated with depression, they may also exacerbate the social isolation experienced by many with depression by encouraging online relationships in place of face-to-face interactions. While this may be particularly problematic for people who are shy or who have co-morbid conditions such as avoidant personality disorder (Finn, 1999; Russell, 2004) there is insufficient research evidence to state conclusively that this is indeed the case. However, reviews into the effects of internet-usage and social relationships such as Nie (2001) and Saunders and Chester (2008) recognise the legitimacy of this concern.

Online group environments are typically not considered conducive to managing people in high levels of distress or those at acute risk of suicide or self-harm. In asynchronous groups, group members who post a thread about their current state of distress may have to wait some time before receiving support (Alao, Soderberg, Pohl, & Alao, 2006; Boberg et al., 1995). Additionally, therapists or group leaders may feel ill-equipped to deal with suicidal clients or clients in crisis in an online chat-room (Abell & Galinsky, 2002). There are however a minority of researchers and clinicians who advocate for the usefulness of online group environments for assisting individuals at risk of suicide. For example, Barak (2007) notes that online group environments can potentially provide immediate, intensive and genuine assistance to at-risk individuals. Furthermore, the anonymity afforded by this medium and the online disinhibition effect may promote disclosure and increase help seeking by individuals with suicidal ideation (Gilat & Shahar, 2007). Barak further asserts that, when facilitated by trained individuals, online environments can provide valuable assistance regarding suicide prevention and the provision of emotional support to highly distressed individuals.

The brief overview presented in this chapter highlights the potential affordances and limitations of online group therapy. As an emerging therapeutic modality, there remains speculation regarding the feasibility and benefits of online group therapy. As such, greater empirical investigation is required.

Empirical Research on Online Group Therapy

A thorough review of the literature revealed there is limited empirical research on the efficacy of online group therapy in the treatment of psychological conditions. Research into online group therapy first emerged in 2000. Fourteen years later, less than one study a year investigating the efficacy of this treatment modality has been published. This provides a

good indication of the paucity of research in this area. Large scale RCTs with associated

follow-up and replication studies are lacking. The empirical work surrounding online group

therapy is dominated by pilot studies, pre-post designs without a control group or small scale

RCTs. Additionally, the presenting problems investigated in these studies are frequently of a

non-clinical nature. Qualitative research investigating the online group processes and

participation experience are also lacking. This body of research has therefore established

proof of concept, but little is known about the underlying mechanisms of change, long-term

effects and ability of online group therapy to treat clinical problems such as depression.

The following section reviews the findings from six studies published to date

investigating synchronous online group therapy. Table 3 provides a summary of these

studies. Currently, research conducted into asynchronous group work pertains to support

groups , which differ notably from therapeutic groups as they do not include treatment

protocols, may not include a therapist, frequently follow an open format whereby members

can join or leave at any time and are generally not time-limited. Additionally, the role of

support groups is to bring about distress relief rather than therapeutic change (Barak, Boniel-

Nissim, et al., 2008). As such, asynchronous group therapy is not included in this review.

Barak and Wander-Schwartz (2000) compared an online chat-room therapy group (n

$= 6$), a standard face-to-face treatment group ($n = 9$) and a no-treatment control group ($n = 7$)

in the treatment of college students with non-clinical concerns. The allocation to the two

treatment groups was non-randomised based purely on participant preference. Participants in

both treatment groups received time-limited dynamic therapy provided by two similarly

skilled group therapists. Participants in the online group met weekly for 90 minutes in a

password-protected chat-room for seven weeks. The group's sole method of communication

was via synchronous online chat. Those in the face-to-face treatment group met weekly for

seven weeks in a treatment room at their university. The impact of therapy on self-esteem,

Table 3

A Summary of the Characteristics of Studies Investigating Online Group Therapeutic Interventions

Author(s)	Sample Characteristics	Study Characteristics	Intervention	Findings	Limitations
Barak & Wander-Schwartz (2000)	22 university students. Non-clinical presenting problems.	CT comparing online GT, f2f GT & no-treatment CG.	Time-limited dynamic therapy. 7 weekly, 90-minute sessions. Online GT conducted in online chat-room.	CG participants remained unchanged. Both therapeutic groups demonstrated small & non-significant improvements in self-esteem, social relationships & wellbeing. More improvement demonstrated by online group. Group processes online & f2f largely comparable. General treatment satisfaction expressed in both groups by participants & therapists.	Small sample size reduced power. Therapist differences may account for findings. Non-clinical presenting problem limited generalisability.
Golkaramnay et al. (2007)	228 adults recently discharged from an in-patient psychiatric unit.	CT comparing online GT & no-treatment CG.	'Internet-Bridge':12-15 weekly, 90-minute sessions in an online chat room.	User-friendly. Well-accepted. Low drop out of 9.4% in TG.	Non-randomised sample, non-standardised treatment & use of only 1 hospital limited

Author(s)	Sample Characteristics	Study Characteristics	Intervention	Findings	Limitations
			Open groups of 8-10 members. Focussed on re-adjusting to life after hospitalisation & maintenance of therapeutic gains.	At 12-month FU, CG demonstrated significantly less treatment progress compared with TG. TG significantly more improved on psychological distress, QoL & physical wellbeing compared with CG, with between-group *d* ranging between 0.27-0.32.	generalisability.
Haug et al. (2008)	121 adults recently discharged from an in-patient psychiatric unit.	Quantitative investigation of online GT group processes & process evaluations.	As described above.	Similar group processes & evaluations demonstrated in in-patient f2f & online therapeutic groups.	Non-standardised treatment & use of only 1 hospital limited generalisability. Linear model used in the data analysis may be too simplistic. No qualitative analysis.
Gerrits et al. (2007)	140 adolescents. Sub-clinical levels of depression.	Pilot study. Pre-post design.	'Grip op je Dip': 8 weekly, 90-minute sessions in an online chat-room facilitated by up to 2 mental health workers. Maximum of 6	75% mean satisfaction rating from course completers. 89% mean satisfaction rating from therapists. Significant reductions in	Absence of a CG prevented causal attributions being made. High attrition.

Author(s)	Sample Characteristics	Study Characteristics	Intervention	Findings	Limitations
			members/ group. CBT-based intervention.	depressive symptoms at post-treatment.	
van der Zanden et al. (2012)	244 young people aged 16-25 Mild to moderate depressive symptoms.	RCT comparing online gCBT & WLC.	As above.	TG demonstrated significant reductions in depressive symptoms at 3 months than the CG. Between-group $d = 0.94$. TG demonstrated significantly greater improvements in anxiety & mastery than CG. Significantly greater number of individuals in the TG compared with CG achieved reliable & CS change. Treatment gains maintained at 6-month FU.	Sole use of self-reported data. Participants had higher levels of education relative to the general population, limiting generalisability. Effect on severe depression unknown.
van der Zanden et al. (2010)	48 Dutch parents with mental illness.	Pilot study. Pre-post design.	'Kop op Ouders': 8 weekly, 90-minute sessions in an online chat room facilitated by up to 2 mental health workers.	Significant improvements in parenting skills & parental sense of competence. Moderate to large d (0.46-	Absence of a CG prevents causal attributions being made. Small sample size. Sole use of self-reported

Author(s)	Sample Characteristics	Study Characteristics	Intervention	Findings	Limitations
				0.61).	data.
			Maximum of 6 members/ group.	Non-significant improvements in children's behaviour.	Lack of FU data.
			Intervention focussed on developing parenting skills & managing negativity about mental illness.	78% mean satisfaction score of 78%	

Note: CG = control group; CS= clinically significant; CT = controlled trial; f2f = face-to-face; FU = follow-up; gCBT = group CBT; GT = group therapy; RCT = randomised controlled trial

social relationships and wellbeing was measured. Additionally, group process variables were examined and participants were asked to complete a questionnaire evaluating their treatment experience.

Results indicated that both treatment groups demonstrated positive but non-statistically significant improvements in self-esteem, social relations and wellbeing. The online group were slightly more improved than the face-to-face group. The no-treatment control demonstrated little change. The group process variables for the two treatment groups were largely comparable, with participants from both groups reporting similar perceptions of group cohesion, independence, emotional expression, personal exposure, order and organisation. However, those in the online group reported higher levels of aggression, therapist support and control and likelihood of taking positive action. Similar satisfaction levels of satisfaction were found for both groups. Online group participants reported feeling close to their fellow group members and stated that the anonymity afforded by the chat-rooms increased their self-disclosure. Both therapists reported that their groups were generally similar to other groups they had led. The online group therapist noted however that interpersonal relationships appeared to develop faster over the internet. The authors concluded that online group therapy is a legitimate psychological intervention that positively impacts on participants. However, the small sample size and non-clinical nature of the presenting problem limits the generalisability of these results.

Controlled trials investigating the effectiveness of online group therapy as aftercare following inpatient treatment have been conducted. Golkaramnay, Bauer, Haug, Wolf, and Kordy (2007) investigated an online group-based program that aimed to reduce the risk of losing the therapeutic gains achieved during inpatient treatment. The treatment group comprised 114 participants who, following discharge from inpatient psychiatric care, meet weekly for 12-15 weeks with a group therapist in synchronous, text-based internet chat-room.

Each session lasted 90 minutes and focussed on overcoming the challenges of adapting to life in the community following inpatient treatment. Each group comprised 8-10 members. The no-treatment control group comprised 114 individuals. All participants had participated in face-to-face group therapy during their hospitalisation. 52.63% of the participants experienced mood disorders. Results indicated that 12 months following discharge, those who participated in the online group therapy were at significantly lower risk (24.70%) for negative outcomes than those in the control group (38.50%). Furthermore, the online group therapy participants were more likely to maintain or improve their inpatient therapeutic gains than their control group counterparts. Over 90% of treatment group participants reported being satisfied with their online group therapy experience. This satisfaction was reflected in the low drop-out rate of 9.40%. and high attendance rate of 85%. Participants also reported finding the technology easy to use. A study investigating the effectiveness of the intervention in preventing relapse revealed that the online group therapy participants experienced significantly lower rates of relapse and took significantly longer to relapse than did their control group counterparts (Bauer, Wolf, Haug, & Kordy, 2011). This demonstrates the potential of online therapeutic groups to maintain high retention rates and be both effective and well accepted.

With the exception of the study conducted by Barak and Wander-Schwartz (2000), the research reviewed so far does not include an analysis of the group process variables present in online therapeutic groups. This is an important area of research as face-to-face group therapy research has demonstrated that group processes influence treatment outcomes (MacKenzie, 1981, 1983; MacKenzie & Livesley, 1983). Furthermore, the unique nature of an online group environment may influence group processes. It is therefore important to examine group therapeutic processes.

Haug and colleagues (2008) investigated the group processes and process evaluations of the afore-mentioned online group-based aftercare treatment program. As this study partly aimed to compare online and face-to-face group processes, participants completed two questionnaires after their inpatient face-to-face group therapy sessions and online group sessions. These questionnaires measured process variables such as therapist support, group acceptance and session helpfulness, subjective levels of engagement by the group members and levels of emotional belongingness to fellow group members and the therapist. Results indicated that participants experienced significant satisfaction with the group from the beginning of the treatment, which improved significantly over time. The transition from the face-to-face to the online group did not substantially alter participants' perceptions of their levels of engagement and activity within the group or their levels of emotional belongingness to the therapist, the group itself and other group members. The authors concluded that group processes and evaluations over the internet do not differ significantly from those occurring in face-to-face groups. This study further highlighted the importance of emotional belongingness and active participation within online treatment groups.

Recognising that children of parents with mental illness are at greater risk of developing mental disorders themselves, van der Zanden, Speetjens, Arntz, and Onrust (2010) created and evaluated Kop Op Ouders, an online group-based parenting skills course for Dutch parents with mental illness. A maximum of six parents met weekly for eight weeks in a password-protected online chat room. Sessions lasted for 90 minutes each and were facilitated by up to two trained mental health workers. The intervention focussed on developing parenting skills and managing negative emotions about mental illness. The learnings from the sessions were consolidated through structured homework activities. In total, 48 parents with mental illness participated in one or more course sessions. ITT and completers only analyses revealed moderate to large effect sizes for improvement in

parenting skills and parental sense of competence. 32% of the parents moved from the clinical to non-clinical range for laxness and 25% for overreactivity. The effects of the intervention on the children's' behaviour demonstrated non-significant improvements. The overall satisfaction rate for the intervention was 78% but drop-out was high, with 57% of participants completing half or more of the sessions and only 20% of participants completing all sessions. The absence of a control group prevents causal attributions regarding the study's treatment effects being made. Nevertheless, these promising provide a useful demonstration of the clinical utility of online group therapy.

The interventions reviewed thus far demonstrate the potential worth of online group therapy. However, these interventions are largely unstructured and do not necessarily address a specific clinical concern. The Grip op je Dip intervention (http://www.gripopjedip.nl/nl/Home/) is however, an online group therapy intervention using structured CBT protocols to reduce depressive symptoms in adolescents and young people. The intervention comprises eight sessions and focusses on behavioural activation, the relationship between thoughts, feelings and behaviour and cognitive restructuring. Running for 90 minutes, the weekly sessions comprise a maximum of six members and are facilitated by mental health clinicians. The sessions take place in a password-protected environment and participants have access to a chat-box and a screen that providing a visual display of important concepts.

A pilot study of the Grip op je dip intervention was conducted by Gerrits, van der Zanden, Visscher, and Conijn (2007) and focused on adolescents with sub-clinical levels of depression. This study aimed to explore whether participants experienced reductions in their depressive symptoms after the course. It also evaluated treatment satisfaction and the opinions of the facilitators. In total, 140 adolescents commenced the intervention, 46.40% of whom participated in four or more sessions and 37.50% of whom finished all eight sessions.

A completers' analysis indicated significant post-treatment reductions in depressive symptoms. The overall course satisfaction rating was 75% and 79.30% of the participants stated that would recommend the intervention to others. Once acclimated to the technology, participants reported enjoying the online environment and appreciated the anonymity it afforded. Participants also reported a sense of connection to their facilitators and other group members. With an overall satisfaction rating of 89%, facilitators reported that the anonymity facilitated self-disclosure and that a strong working alliance was easily established. The facilitators noted that this intervention approach is best suited to highly motivated individuals. Once again, the lack of a control group prevents the makings of causal attributions. However, the study demonstrates the potential for online group CBT (gCBT) to treat individuals at risk of depression.

In 2012, van der Zanden, Kramer, Gerrits, & Cuijpers conducted a RCT evaluating the effectiveness of the Grip op je Dip intervention in young people aged 16 to 25 years with depressive symptoms. In this study, the intervention was reduced from eight to six sessions but all other aspects remained unchanged. WLC participants were placed on a waiting-list and invited to participate after a three month waiting period. In total, 121 participants were assigned to the treatment group and 123 to the WLC. The study evaluated the intervention's effects on symptoms of depression and anxiety, and sense of mastery over one's environment. Three months after the commencement of the intervention, results indicated that the treatment group was significantly more improved than the WLC on all outcome measures. A large between-group effect size ($d =0.94$) was found for depressive symptom reduction. Medium between-group effects ($d =0.49$ & 0.44) were found respectively for anxiety symptom reduction and improvement in mastery. A significantly greater number of treatment group participants demonstrated reliable and clinically significant change in comparison to those in the WLC. Furthermore, treatment gains were maintained at the six-

month follow-up. van der Zanden and colleagues suggested that the group aspect of the intervention was likely an important contributor to the relatively large effect size, and stated that online gCBT interventions demonstrate great promise in treating clinical populations.

The available literature on online group therapy certainly indicates that therapy delivered in this format has the potential to reduce depressive symptoms, provide a vital source of social support and maintain therapeutic gains following inpatient treatment. The findings from the Grip op je Dip intervention in particular demonstrate that online gCBT is a reasonable treatment option for depression. However, the paucity of research makes it difficult to determine conclusively if such a treatment is in fact efficacious for adults with clinically significant symptoms. Further research in this area is clearly warranted. However, it may be helpful to develop an understanding into the factors that contribute to the limited research before further studies examining the efficacy of online gCBT for depression are conducted.

Online group therapy is an emerging treatment modality. Consequently, it will take time to develop a pertinent body of research. Studies that have been conducted appear to be characterised by small sample sizes (e.g.: Barak & Wander-Schawrtz, 2000; Golkaramnay et al., 2007; Haug et al., 2008), which negatively impacts on the generalisability of research findings. Furthermore, the smaller the sample size, the more difficult it is to obtain results of statistical and clinical significance. This may in turn reduce the likelihood of publication of studies that fail to demonstrate significant results.

As online group therapy is an emerging treatment modality into its efficacy, it is not yet routinely provided. This may make recruitment for studies more difficult as a culture of online group intervention has not been established. Consequently, many recruitment sources such as hospitals and community mental health services may not offer online therapies.

Furthermore, as online group therapy is so new, therapist and supervisor training in this modality is limited, (Rochlen et al., 2004) making it difficult to find suitably qualified therapists to conduct the online treatment groups, and supervisors to oversee their clinical practice. This problem is compounded when dual-facilitation models are employed (Robinson et al., 1990).

One of the great advantages of online therapy is its accessibility, particularly for people in rural areas or those with disabilities. It is therefore ironic that this therapy is only accessible to people with specific characteristics, which may in turn negatively affect participant recruitment in online studies. Specifically, online group therapy is a realistic option only for people who are not in acute crisis (Rochlen et al., 2004), who have access to a computer and internet connection and possess well-developed computer and written language literacy (Robinson, 2009). Furthermore, group members need to be recruited according to strict inclusion and exclusion criteria to maximise group processes and therapeutic gains (Unger, 1989). These factors may likely increase difficulties associated with recruiting a sample large enough to conduct efficacy research into online gCBT for the treatment of depression.

Summary, Future Research and Conclusion

Summary of Findings

The manualised and highly structured nature of CBT lends itself to internet adaptation (Spek, Cuijpers, et al., 2007). Much empirical research suggests that individually-based self-guided and therapist-assisted iCBT interventions demonstrate efficacy and effectiveness in the treatment of depression maintained over across a variety of treatment populations. Supported interventions typically produce stronger treatment gains than self-guided interventions. Additionally, these interventions demonstrate cost-effectiveness and high

acceptability ratings (Andrews et al., 2010; Barak, Hen, et al., 2008; Cavanagh & Shapiro, 2004; Cuijpers, van Straten, Andersson, et al., 2008; Foroushani et al., 2011; Kaltenthaler et al., 2004; Kaltenthaler et al., 2002; Richards & Richardson, 2012; Spek, Cuijpers, et al., 2007).

Online group therapy is emerging as a beneficial form of treatment across a range of psychological concerns (Barak & Wander-Schwartz, 2000; Golkaramnay et al., 2007; Haug et al., 2008). Online gCBT shows particular promise in the treatment of depression (Gerrits et al., 2007; Houston et al., 2002; van der Zanden et al., 2012). Online gCBT can potentially combine the benefits of face-to-face therapy with the convenience and cost-effectiveness of internet-delivered therapies. However, insufficient research exists to determine conclusively whether online gCBT can deliver these benefits safely and effectively.

Future Directions

An investigation into the viability of online gCBT for the treatment of depression appears to raise more questions than it answers. Given the paucity of research in this area, it is clear that further empirical studies are needed. Future research should include RCTs to determine the efficacy of online gCBT for the treatment of depression, the characteristics of people who are likely to benefit most, mechanisms of change and the role of online therapists in the researched intervention (Golkaramnay et al., 2007). Additionally, qualitative and quantitative research is needed to determine how variables such as group size and composition affect therapeutic gains.

Qualitative studies in this area are particularly lacking. This type of research may however provide valuable insights into usability and acceptability of online gCBT interventions and may assist in evaluating and modifying intervention content. Qualitative analyses can also enhance our understanding of how engaging in gCBT via a computer

impacts upon therapeutic experiences. In short, qualitative and quantitative research pertaining to both the process and content of online gCBT is required before this treatment modality can be considered a viable and acceptable therapeutic option for individuals experiencing depression.

Research Questions

This thesis aimed to address the significant research gaps in online gCBT by evaluating MoodGroup, an online gCBT intervention for the treatment of depression in Australian adults. It will describe the development and implementation of this treatment intervention in Chapter 3 before addressing the following research questions in the remaining chapters:

1. How efficacious is MoodGroup in the treatment of adults with clinically significant symptoms of depression?

2. How do online and face-to-face group processes compare and can online group process variables predict therapeutic gains?

3. Is the onset of response to online gCBT similar to face-to-face trends and does early treatment improvement predict therapeutic gains?

4. What can be learnt from the experience of MoodGroup from the perspectives of its group participants, facilitators and clinical supervisor?

Conclusion

The use of the Internet in the treatment of psychological conditions is increasing. Online CBT for individuals is a popular and effective treatment modality for a variety of mental health conditions including depression. Online therapies for depression are cost effective and efficacious, and have the potential to increase access to treatment.

Online gCBT is emerging as an exciting new treatment modality. It can potentially combine the numerous benefits of traditional face-to-face group interventions with the accessibility and cost-effectiveness of online therapies. However, this form of treatment currently lacks empirical research pertaining to its efficacy, mechanisms of action and viability.

Despite its promise, online gCBT for depression is under-researched. As highlighted in this review, there are numerous barriers to conducting research in this area that need to be addressed. As depression is such a prolific condition, it is vital that innovative, cost-efficient and effective treatments are readily available to affected individuals. Online gCBT has the potential to be such a treatment. However, before this treatment becomes widespread it is vital that empirical studies comprehensively address what remains unknown about the treatment of depression using online gCBT, and which individuals are most likely to benefit from this treatment modality.

Chapter 3: Creation of MoodGroup, an Online Group Therapy Intervention

Chapter Overview

As demonstrated in Chapter 2, there exists little research on online group therapy. The available information focuses on the outcomes of the therapy as opposed to the process of creating an online group treatment. Providing a detailed account of this process offers a contribution to the research surrounding this emerging treatment modality. This chapter describes the development of MoodGroup, an online gCBT intervention for depression. It describes the conversion of an existing offline gCBT intervention to an online format and provides evidence-based justifications for decisions related to the length, structure, presentation and delivery of the intervention. The recruitment and training of the MoodGroup facilitators is described. This chapter concludes with a discussion on the decision to include individuals experiencing suicidal ideation, and the comprehensive risk management plan that resulted.

Adaptation of an Existing Manualised Treatment

The online gCBT intervention used to treat depression in this thesis was adapted from an existing effective, face-to-face CBT-based group program. The Core Program is a manualised group therapy intervention well suited to online adaption as it is based on cognitive behavioural principles and offers flexibility in the number and structure of treatment sessions. Importantly, it is an evidence-based intervention with demonstrated success in treating depression (Beshai & Dobson, 2010; Paterson, 2010).

The Core Program. Dr Randy Paterson, a Canadian psychologist and Director of the Changeways Clinic, developed the Core Program in 1992. It is a gCBT protocol designed to treat depression in both outpatient and inpatient settings. It is suitable for adults with a

variety of depressive disorders including major depression, persistent depressive disorder and bipolar depression. It has also proven helpful in treating difficulties commonly associated with depression such as stress, and generalised anxiety and adjustment disorders. The program focuses on evidence-based strategies to treat depression that include psychoeducation, problem-solving, lifestyle management skills, psychological self-care and relapse prevention. The program includes comprehensive therapist and client treatment manuals. The Core Program can run across a choice of six to ten sessions. This affords flexibility in session structure, content and duration, which is particularly valuable when designing a novel treatment program (Paterson, 2006).

The Core Program has demonstrated success in treating people with depression in inpatient and outpatient settings. An open-trial evaluation in Canadian mental health hospitals revealed that the length of hospital admission for Core Program participants was 39% shorter than for those in the comparison group. Furthermore, the 8% hospital readmissions within six months of discharge for program participants was markedly lower than the 30.1 % rate of rehospitalisation reported within the comparison group (Paterson, 2006).

The program has also demonstrated treatment gains in outpatient and community settings. The Changeways Clinic in Vancouver conducted a large-scale evaluation of an 8-week Core Program. Results indicated significant reductions in depression scores from intake to program completion ($p < .001$) and intake to follow-up ($p < .01$). Although the Core Program does not specifically focus on anxiety, significant reductions in anxiety scores ($p < .001$) were reported from both intake to program completion and intake to six-month follow-up. Furthermore, participants reported significant improvements in their perceived QoL from intake to program completion ($p < .001$), intake to follow-up ($p < .001$) and program completion to follow-up ($p < .05$). As this evaluation did not include a control

group, causal attributions cannot be made. However, these results do indicate that individuals who complete the Core Program will likely experience treatment gains between the start and the end of the intervention that are maintained over time (Paterson, 2010). Additionally, the Core Program is grounded solidly in evidence-based CBT principals that have demonstrated their efficacy in reducing depression, maintaining treatment gains and preventing relapse (Beshai & Dobson, 2010; Gloaguen et al., 1998; McDermut et al., 2001).

The Core Program appears to be as popular as it is effective. In Canada, it is the most widely disseminated group treatment intervention for depression and related disorders (Paterson, 2006). The program is delivered in other countries including Australia, Great Britain, the United States, the People's Republic of China and Hong Kong. Furthermore, Chinese translations of the intervention are available. An analysis of client satisfaction reviews conducted by Paterson (2006) suggest that the majority of Core Program participants perceive the group to be helpful, find exercises useful and the manual to be clear and easily readable. Furthermore, the majority of participants indicated that they would almost certainly make use of the manual in the future. In addition, the Core Program is well received by professionals and therapists. A recent review of the program conducted by Beshai and Dobson (2010) described it as well developed, inclusive and comprehensive. Furthermore, these authors praised its use of evidence-based strategies and noted its potential to be adapted into a computer-based program.

In summary, the Core Program is a gCBT protocol with demonstrated effectiveness in treating depressive and related disorders in a variety of settings and populations. It is well received by treatment recipients and therapists alike. The program offers flexibility in the structure and content of its sessions whilst working within a manualised therapeutic framework and was therefore considered a good candidate for online delivery.

From the Core Program to MoodGroup, an Online Group Therapy Treatment for Depression

Several phases were required to adapt the offline Core Program for online delivery. The name MoodGroup was chosen for the online gCBT intervention. Permission was sought to use the program for this purpose and decisions made regarding the number of sessions and the content within each session. The technology used to deliver MoodGroup was sourced and the session content adapted to make best use of this technology.

Permission for use. Dr Paterson was contacted by email to discuss the possibility of adapting the Core Program for online use. Dr Paterson was receptive to the idea and forwarded an electronic copy of the Core Client Manual and Clinician's Guide, later travelling to Melbourne to discuss the online adaption. Following this meeting, formal permission was obtained from Dr Paterson to adapt the Core Program for online group therapeutic treatment.

Number of sessions. A number of factors were considered before deciding on the number of treatment sessions that MoodGroup would contain. The literature surrounding effective group-based interventions for depression were examined for trends in the number of sessions, and recommendations from the Core Program and the length and attrition characteristics of effective online interventions for depression were considered. These analyses aimed to obtain an understanding of the duration of effective interventions in both group-based face-to-face and online settings.

Face-to-face gCBT. Effective face-to-face gCBT interventions are typically brief. McDermut and colleagues' (2001) meta-analysis of the efficacy of group therapy interventions for depression included 28 studies utilising cognitive-behavioural approaches.

These interventions typically lasted 12 or fewer sessions with an average of 19 treatment hours. Peterson and Halstead's (1998) literature review of 17 controlled treatment-outcome studies of group cognitive or behavioural treatments of depression returned similar results. The mean number of treatment sessions was 12, with a mean total of 20 treatment hours. The overall mean reduction in depressive symptoms for studies included in this review was 57%. In an examination of the characteristics of effective psychological treatments for depression, Cuijpers, Van Straten, Warmerdam and Smits (2008) conducted a meta-regression analysis of 83 studies, 13 of which included group therapy. The authors found significant reductions in depression could be achieved in 12 or less sessions and approximately 14 hours of therapeutic contact.

Consensus around the optimal number of treatment sessions for a gCBT intervention targeting depressive disorders appears lacking. For example, Comas-Diaz (1981) demonstrated significant treatment gains with a brief gCBT intervention lasting only five weeks, whilst Ravindran, Anisman, Meralis and Charbonneau's (1999) investigation into the efficacy of gCBT for dysthymia concluded that 12 or more treatment sessions may be required to reduce depressive symptoms and improve QoL. Increasing both the number of sessions and therapeutic contact time significantly increased the treatments' effect sizes. However, individuals are more likely to drop out of therapy if the intervention extends beyond six sessions (Cuijpers et al., 2008).

An examination of drop-out trends in face-to-face gCBT interventions provides further helpful information regarding MoodGroup's optimal number of sessions. Drop-out is commonly referred to as attrition, and is formally defined as the number of clients failing to complete treatment or who end treatment prematurely (Westra, Dozois, & Boardman, 2002). Attrition rates for clients receiving face-to-face CBT treatment are high. For example, the National Institute of Health Treatment of Depression Program reported an attrition rate of

32% for clients accessing CBT either in individual or group-based settings (Elkin, 1994; Elkin et al., 1989). Although attrition rates for face-to-face gCBT interventions for depression vary from 2% (Ravindran et al., 1999) to 47.30% (Oei & Dingle, 2008), treatment recipients are more likely to drop out in the former than the latter stages of therapy.

The Core Program recommendations. The literature surrounding face-to-face gCBT interventions reveals that there is no clear answer into the optimal number of sessions. The benefits of a longer intervention need to be carefully weighed against the increased attrition risk. The Core Program was designed to be flexible, with the treatment manual suggesting formats for 6, 8, 10, and 12-session interventions. However the program's authors state that in their experience groups provide the most benefit when delivered at weekly interviews for two hours at a time over eight sessions. This structure allows the content to be presented in an interactive manner and affords participants sufficient time to review the materials and carry out the home practice activities.

Online CBT. Although no published research exists on gCBT online interventions for the treatment of depression in adults, information is available regarding the characteristics of effective individual online CBT interventions and an online gCBT intervention for the prevention of depression in adolescents. The duration and associated attrition rates of these interventions helped guide the optimal number of MoodGroup sessions.

An analysis of online CBT interventions for depression revealed high percentages of participants who failed to complete treatment. Karp (2008) provided a 16 session individually-based online CBT treatment program. Only 605 of the 1368 registered users provided sufficient data for analyses. Only 1.20% of those users completed all 16 sessions, whilst 17% remained in four or more sessions and 7% remained in five sessions or more. An evaluation of Moodgym, a CBT-based depression intervention comprising five online

modules, reported that in an open-access setting, only 0.50% of registered users completed the program (Christensen, Griffiths, & Korten, 2002) . In a trial setting 22.50% of participants completed all five modules (Christensen et al., 2004).   Taken in combination, 4.30% of users completed the program with 15.60% completing two or more modules. Warmerdam and colleagues (2008) investigated the efficacy of online CBT and online problem-solving therapy (PST) in the treatment of depression. The CBT component of this RCT comprised one lesson per week for eight weeks, with a final lesson 12 weeks later. Initial retention was high, with 90% of participants assigned to the CBT arm of the trial completing the first lesson. Retention remained fairly high, with 71.50% of participants completed four or more lessons and 38.70% completing all nine lessons. The authors attributed this strong retention rate to the well-educated nature of their sample and the large effect size produced by their intervention. An evaluation of Grip op je Dip, an online gCBT intervention for the prevention of depression in adolescents, consisting of eight sessions, revealed that 53.60% of participants attended less than four sessions, 46.40% attended four or more sessions with 35.70% completing all eight sessions (Gerrits et al., 2007).

The above-mentioned online studies all reported significant reductions in depressive symptoms. Karp noted this benefit for participants who completed five or more sessions. Christensen and colleagues noted that the improvement in depressive symptoms increased from two to four completed modules. However, there was no significant difference in improvement between four and five modules. Warmerdam and colleagues reported significant reductions in depressive symptoms at eight weeks of treatment, which was further improved at 12 weeks. Gerrits and colleagues indicated that those adolescents who completed all eight sessions experienced significant reductions in their depressive symptoms.

The described trajectories of attrition and therapeutic gain fit with the observation made by Ogrodniczuk, Joyce and Piper (2005) that in general, individuals are likely to cease

treatment before experiencing therapeutic gain. Therapeutic gains can however be made in as little as two weeks. Whilst increased session numbers can produce further improvement, significant gains in treating depression online can be made within five weeks.

It appears relatively clear that an effective online treatment for depression requires at least five sessions. The potential benefits of a longer treatment protocol need to be carefully considered against the increased risk of attrition. Given the efficacy of brief face-to-face interventions, the Core Program recommendations and the high rate of attrition in online depression interventions, it was considered reasonable for the MoodGroup intervention to comprise eight therapy sessions lasting two hours each. As technological competence and confidence are associated with high frequency of use (Ertmer, Evenbeck, Cennamo, & Lehman, 1994), inspire feelings of comfort and familiarity with the medium (Kendall, 2001) and improve performance (Bordia, 1997) it was decided that an introductory session would be run in addition to the eight therapeutic sessions. This session would acclimatise participants to the technology used in the intervention and provide them with an opportunity to become familiar with its features. Therefore, in total, the MoodGroup intervention consisted of nine sessions delivered once a week for two hours at a time with a total of 18 hours overall, 16 of which contained therapeutic content.

This figure closely approximates the relevant means cited in reviews of efficacious gCBT delivered face-to-face. Furthermore, a 9-session model is not dissimilar to the online intervention described by Warmerdam and colleagues (2008) which was able to sustain relatively high completion rates.

Technology. Blackboard Collaborate™ web-conferencing software (https://www.blackboard.com/Platforms/Collaborate/Products/Blackboard-Collaborate/Web-Conferencing.aspx) was selected to host the MoodGroups. Blackboard Collaborate™'s real-

time, virtual classrooms were designed for interactive learning and contain a number of features considered to be useful for the purposes of facilitating an online group intervention. These include an interactive whiteboard, slideshow and file-sharing capabilities, public and private chat functions, user-activity indicators, polling features and in-session recording options. Group members can communicate their progress, movements and emotions using the feedback menu, which allow them to raise their hand, indicate that they have stepped away from the computer and demonstrate their approval or disapproval using thumbs up and thumbs down buttons. Additionally, the emoticon menu provides an extensive range of emotional expressions, allowing users to demonstrate their feeling and inflect emotional nuances into their text-based conversation. Users can also be divided into smaller groups using the 'breakout room' function. Moreover, group facilitators can disable and enable participant access to the classroom's features and monitor all communication between users. As RMIT University uses Blackboard Collaborate™ for web-conferencing and the delivery of online classes, MoodGroup participants were provided with free access and technical support.

Whilst Blackboard Collaborate™ has the capacity for audio and video communication, it was decided that MoodGroup would only use the text-based communication. Three reasons guided this decision. First, the use of audio and/or video reduces the potential for anonymity, a frequently cited benefit of online interventions (Ryan, Shochet, & Stallman, 2010). Second, the use of audio and/or video requires additional equipment such as microphones and web-cameras, and increases the required bandwidth. It could not be assumed that all those who applied to MoodGroup had access to this equipment and the research project lacked the funds to provide it. Finally, the use of audio and/or video features increases the technological complexity of the intervention, which in turn increases the possibility of technical malfunction. Therefore, using text-based chat as the sole

communication method within a MoodGroup was considered optimal as it supported

anonymity and maximised access to the intervention whilst minimising the potential for

technical difficulties. Figure 1 presents a screenshot of the Blackboard Collaborate™ online

classroom or virtual therapy room.

Session plan and structure. As illustrated in Table 4, the MoodGroup session plan

and structure closely followed the Core Program's recommended format for an eight-session

group. As mentioned previously, an introductory session was added with the primary

purpose of acclimatising the participants to the virtual therapy room. Each activity within

this session introduced a new feature. For example, participants were asked to use the chat

function to introduce themselves after they had been shown how it worked.

The introductory session also provided an opportunity for pre-group training. Pre-

group training typically includes basic education about the therapeutic approach, the roles

and responsibilities of group members and facilitators and the rules and guidelines for

participation. It can also instill hope within group members. Pre-group training is associated

with increased retention rates and improved treatment outcomes (Bednar, Weet, Evensen,

Lanier, & Melnick, 1974). Given the high rates of attrition in individual online and face-to-

face group-based interventions for depression, it was considered prudent to employ this

technique. Additionally, this session included two activities ("Participation Barriers and

Solutions" and "Individual and Group-based Hopes") to foster a sense of group cohesion and

belonging, instill hope and normalise and problem-solve anticipated barriers. These

strategies were included as they promote retention (Bednar et al., 1974; Rose & Chang, 2010;

Satterfield, 1998).
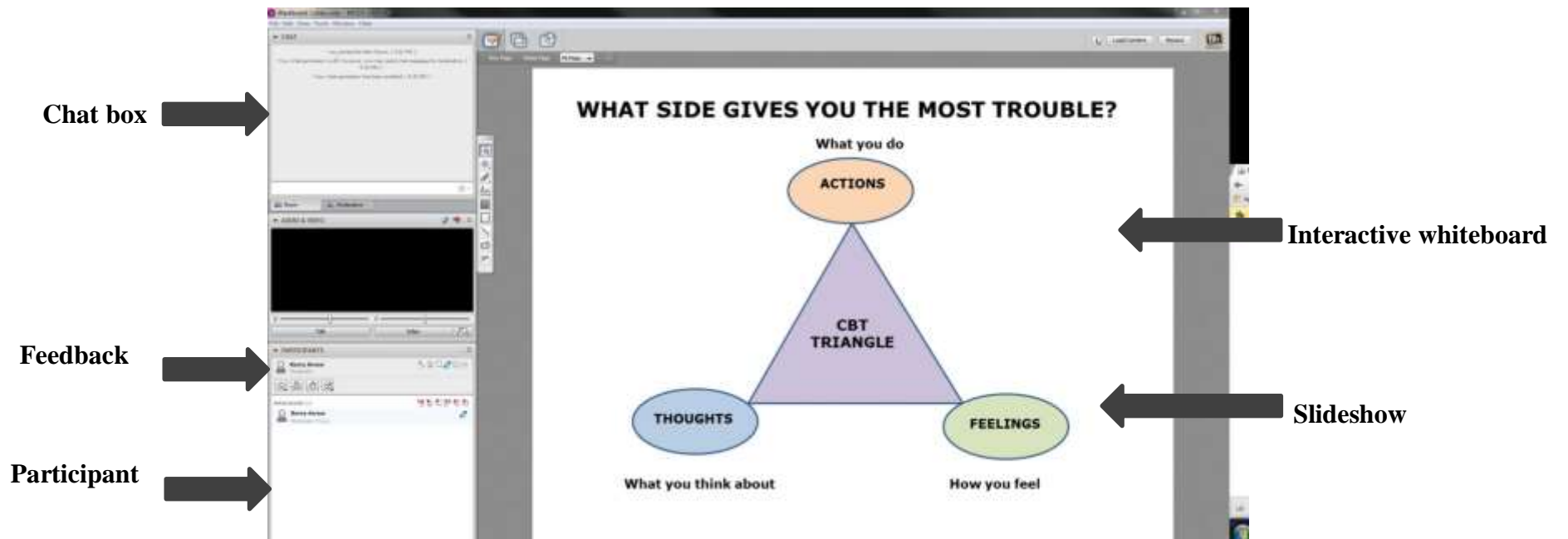
Figure 1. Annotated screenshot of the Blackboard Collaborate™ virtual therapy room.

As Table 4 demonstrates, the first three MoodGroup treatment sessions contained the same content as those in the Core Program with a slightly adjusted structure. In contrast to the Core Program, the goal-setting section of MoodGroup spanned two weeks instead of one. The stress and lifestyle section occupied two weeks in the Core Program but only one in MoodGroup. These changes were introduced to maximise the amount of time spent within group sessions on practical activities, such as goal setting. The MoodGroup course reviews in the sixth and eighth treatment sessions were the only other major changes.

As with the Core Program, a review of the home-practice activities was included from the second therapeutic MoodGroup session onwards. The Core Program manual recommends that participants be divided into smaller groups to undertake this review to maximise their opportunity to make contributions within the allocated timeframe. This was achieved in MoodGroup by dividing participants into two breakout rooms.

Program adaptation. The Core Program was designed to be delivered in face-to-face environments using primarily verbal communication. In contrast, MoodGroup relies on text-based communication. Tasks in text-based online chat-groups may be perceived as being more demanding than face-to-face groups because typing takes longer than talking (Bordia, 1997) and are associated with perceptions of increased mental and temporal demands (Graetz, Boyle, Kimble, Thompson, & Garloch, 1998). Furthermore, in examining the use of web-conferencing software to deliver synchronous course content at university level, Hampel (2006) found that tasks took longer than expected and were more time-intensive than in face-to-face settings. Additionally, people tend to experience greater difficulties reading from a computer screen than a printed document (Kendall, 2001). These differences highlighted the need to adapt the content from the Core Program to optimise its delivery in an online environment.

Table 4

Shared and Unique Content of the Core Program and MoodGroup

Session	The Core Program: Unique content	Shared content	MoodGroup: Unique content
Intro	N/A	N/A	Group introduction
			Technology introduction
			Participation barriers
			Hopes & expectations
1	Group introduction	Triangle and Goals	
	SMART goals	*Thoughts, actions & feelings: The triangle*	
		Setting attainable goals	
2	Stress, depression & lifestyle	Home practice review	SMART goals
	The nature of stress & depression		
3		Home practice review	Stress, depression & lifestyle
		Stress, depression & lifestyle	*The nature of stress & depression*
		The sustaining lifestyle	
4		Home practice review	
		Thinking about thinking	
		Distorted thinking styles	
5		Home practice review	
		Thinking about thinking	
		Handling changes in mood	
		Overcoming negative thinking	
6		Home practice review	Course review
		The role of your social life	
		Your social network	
7		Home practice review	
		The role of your social life	
		Creating a support team	
		Social balancing	
		Assertive communication	
8		Home practice review	Course review
		Relapse prevention	Farewell ceremony

The online wrap around model is commonly used in successful e-learning courses.

In this model, a given course or program is divided between pre-determined course work and

online collaboration (Mason & Bacsich, 1998). This model is advantageous as it maximises opportunities for communication between the group without minimising the amount of content provided (McKenzie, 2012). The interteaching model is an innovative teaching model that is increasingly being applied in online tertiary education. In this model, tutorials precede lectures. Students are therefore required to work through weekly readings before attending lectures, increasing personal responsibility for learning (Chester, Kienhuis, & Wilson, 2013). Based on the principles of these models, it was decided that the bulk of the theoretical content for each MoodGroup session would be delivered through weekly pre-readings. In this manner, participants would enter their MoodGroup session with a basic understanding of the session material. This maximised opportunity for the online group time to be devoted to activities and discussions that served to consolidate this knowledge, clarify misconceptions, review learning and undertake problem solving.

The Core Program Manual provides reading material relevant to each of the core modules. This typically comprises psychoeducational information and skills-based activities. The MoodGroup pre-readings were based on this reading material and contained the information and activities from the Core Program Manual relevant to each MoodGroup session. Eight pre-reading documents were created. Following completion of the Introductory session onwards, participants were emailed the pre-reading relevant to the following week's session. They were encouraged to complete the readings and undertake the associated activities prior to their next session. Participants could contact their facilitator via email for support and/or clarification between sessions.

As online group therapy is an emerging treatment modality, no information existed to guide decisions related to how best to present and deliver the therapeutic content in the virtual therapeutic room. It was also unclear how best to optimise use of the technology to maximise therapeutic gains. However, the findings and recommendations from research

regarding the maximisation of small group performance within educational and workplace setting guided decisions related to the presentation and delivery of the weekly MoodGroup sessions.

Hampel (2006) developed a framework for the production of tasks within the context of online university classrooms. The following key points seemed to be particularly relevant to producing group-based therapeutic content online:

- Being cognisant of the affordances and limitations of web-based conferencing software

- Taking advantage of the interactive whiteboard's ability to combine text with images

- Encouraging collaboration and generation of shared content using interactive tools

- Using tasks to encourage active participation and interaction

Although making use of the technological features of the online classroom is important (Hampel, 2006), McBrien, Cheng, and Jones (2009) caution that group members can easily become overwhelmed by the multiple means of simultaneous communication these features produced. For example, participants can simultaneously receive and transmit information by reading, typing, viewing the slides and interacting with the whiteboard. Furthermore, the different features provide different means to answer questions or respond. A simple yes/no question can be answered in chat, written on the whiteboard, expressed as an emoticon or via use of the yes/no feature in the feedback menu. The content and tasks presented in online classrooms should be clearly and explicitly presented. Tightly contained session structures with clear expectations of what is required from group members are also recommended (McBrien et al., 2009).

Kendall's (2001) exploration of the use of online classrooms within universities highlighted the need to make content interactive to prevent students passively sitting around reading from their screen. Devoting a portion of the online session to the discussion of tasks and activities that had been set for completion outside of the session may help achieve this. Kendall also highlighted the increased effort that is required to read information presented on a computer screen, therefore recommending that content be presented with limited amounts of text. Use of bullet points and subheadings within presentation slides and upon the whiteboard is encouraged.

Stewart (2013) demonstrated that the seven strategies for effective instruction devised by Chickering and Gamson (1987) in face-to-face undergraduate settings could be adapted to online learning environments. As such, these authors recommended that online course facilitators actively engage their learners and encourage their participation in learning activities. Facilitators should furthermore encourage reciprocity and collaboration between learners, provide explicit and prompt feedback, and support learners to optimise their use of online learning technology.

Following an examination of the use of web-based conferencing software in the workplace, Bordia (1997) concluded that group-based tasks take longer to complete using online chat than in face-to-face settings, possibly due to the increased time it takes for group members to communicate using web-based chat. Furthermore, fatigue is likely as this medium is associated with greater perceptions of cognitive workload as reading and typing are more demanding than listening and talking (Graetz et al., 1998).

The findings from these studies indicated the need to reduce the content covered within each session, create detailed and structured session plans that clearly indicated what was expected from participants and use the features within the technology to foster

collaboration and interaction. To prevent participants feeling overwhelmed by multiple methods of communication, clear guidance is to be offered to participants about when to employ each feature. These findings guided the following decisions were made regarding the manner in which the content of each MoodGroup session would be presented and delivered:

- Graphical representation of concepts through the use of cartoons, images and diagrams to be used where possible.

- Each session to include at least one group-based activity.

- Each session to be structured in the following standard manner: 1). Weekly review, 2). Outline of session content, 3). Delivery of session content including group-based activities, 4). Home practice activities and pre-reading requirements.

Pilot Testing

Prior to the commencement of this PhD, pilot testing of the MoodGroup concept was conducted with a non-clinical sample comprising seven adults who volunteered as peer supporters with depressioNet, an online support forum for individuals impacted by depression. These volunteers were familiar with the way individuals with depression interacted online. A mixed-method approach was utilised to assess the structure, content, appearance and technology of the MoodGroup intervention. In general, approval ratings were high across all categories, and moderate to strong acceptability of the online intervention was demonstrated. This pilot revealed some important recommendations for improvement including increasing the interactivity of the online sessions, reducing the content and allowing more time to allow individuals to get used to the technology. The findings were presented as a poster at the 5th Annual ISRII Conference (Arrow, Chester, & Yap, 2011), a copy of which is located in Appendix A.

Treatment Manualisation

A treatment manual was developed to standardise the intervention as far as possible. The manual included weekly facilitator guides, templates and session presentations. The facilitator guides detailed each session's aims, content and activities. The session was broken down into a number of tasks, each of which contained a goal and instructions for achieving it. These instructions included the questions to be asked, directions for the activities, explanations of the key concepts and approximate timings for each task. Figure 2 provides an example of a task from Session 1. A copy of the facilitator manual is included in Appendix B.

READING REVIEW

Goal: To facilitate a discussion on the reading material with particular reference to the Triangle.

- Ask participants how they went with the readings and to click the green tick button if they completed them. Praise participants for their efforts.
- Ask for a participant to explain the Triangle
- Ask for another participant to explain the "Job Loss" example.
- Explain to participants that they will be divided into smaller rooms for the purpose of small group discussion.
- Request that participants discuss the Triangle and come up with an example of how the triangle interacts (negative spiralling) to bring back to the group.
- Divide participants into small breakout rooms.
- Provide the "Example Situation" slide for this purpose.
- Allow approximately 10 minutes for participants to discuss this in their small groups then return everyone to the main room for reflection.
- Bring the slides from the break out rooms into the main room for this discussion.

Figure 2. Example of a task from Session 1.

The session templates provided a script for each session. These were not intended to be used verbatim; they were guidelines that could be adapted to meet the needs of individual facilitators and their groups. However, they provided standardised instructions and explanations of concepts and offered clear examples for the communication of tasks to the group members. These templates promoted consistency between facilitators and were used as time-saving devices as the scripts could be cut and pasted directly into the chat box. The session templates are included in Appendix C.

The session presentations comprised a set of Powerpoint slides that communicated the aims of the session, provided a graphical representation of the key concepts and presented the activities for the session. Slides were uploaded to the interactive whiteboard, enabling participants to write on them. These presentations were therefore an integral part of each session's activities and discussions. These presentations helped to ensure consistency between different facilitators and standardised the content of the sessions. Copies of the session presentations are included in Appendix D.

Facilitators

The facilitators were recruited from the Masters of Psychology (Clinical) course at RMIT University. All facilitators were provisional psychologists in their fifth or sixth year of training. They had completed training in CBT and had experience working face-to-face with clients with depression. Some, but not all, had facilitated therapeutic groups offline. None were experienced in an online therapy. The facilitators did not receive financial remuneration for their time, but their involvement contributed towards their practical placement hours. In total, facilitators could claim 15 hours of training, 36 hours of preparation and 18 hours of therapeutic contact.

The facilitators completed a two-day training workshop delivered by the author. The training was conducted in a computer laboratory, providing computer access to the facilitators. This allowed the training to be both practical and interactive. The facilitators were introduced to the MoodGroup model and Blackboard Collaborate™. Each function of the virtual therapy room was demonstrated and facilitators were familiarised with these features. The nine MoodGroup sessions were thoroughly described and facilitators rehearsed the activities and tasks. They were also provided with detailed information about managing risk online. The risk management procedures were detailed. Twelve facilitators completed the training. Owing to scheduling difficulties and time constraints only six went on to run MoodGroups.

Clinical Supervisor

A clinical psychologist endorsed as a supervisor by the Australian Health Practitioner Regulation Agency (AHPRA) provided clinical supervision to the MoodGroup facilitators. This supervisor was also a supervisor of the PhD project, a senior lecturer of psychology at RMIT University and Director of the RMIT University Psychology Clinic.

Individual and group supervision sessions were scheduled on a fortnightly basis and the MoodGroup facilitators accessed these as required. These sessions provided the facilitators with the opportunity to reflect on their therapeutic practice, problem-solve, discuss process and content issues emerging in their MoodGroup sessions and seek advice in relation to risk management. Session transcripts could be reviewed by the clinical supervisor. The mobile number of the clinical supervisor was provided to all facilitators in the event of an emergency or high risk situation.

Risk Management

Suicidality is commonly associated with depression, with research indicating that 46.90% of suicidal ideation in a random community sample can be attributed to clinical depression (Goldney, Wilson, Grande, Fisher, & McFarlane, 2000). Additionally, between 36.80-45.70% of individuals who have attempted or died by suicide experienced clinical depression (Kessler, Borges, & Walters, 1995; Shaffer et al., 1996). This association meant that careful attention needed to be paid to MoodGroup's risk management strategy, as it was likely that participants would experience suicidal ideation.

An examination of the inclusion criteria of 10 therapist-assisted individual online interventions for depression revealed that those experiencing suicidal ideation, or considered at risk of suicide, were explicitly excluded from participation in seven of these interventions (Andersson et al., 2005; Cavanagh et al., 2006; Marks et al., 2003; Perini et al., 2009; Proudfoot et al., 2004; Ruwaard et al., 2009; Wright et al., 2005). One intervention did not reference suicidality as exclusion criteria (Selmi, Klein, Gresit, Sorrell, & Erdman, 1990). The remaining two interventions had no specified inclusion or exclusion criteria (van Straten et al., 2008; Warmerdam et al., 2007). The main reason provided for this exclusion is that the lack of non-verbal cues in text-based online interventions increases the difficulty of assessing risk as changes in mood and affect cannot easily be detected. Furthermore, individuals in online interventions are quickly and easily able to terminate their internet connection, eliminating the possibility of continuous risk assessment and management. However, some research suggests that risk of suicide can be effectively managed online. For example, Barak (2007) reported on the success of an online support service in assisting individuals at risk of suicide. This service provides access to synchronous (online support groups) and asynchronous (email) support for individuals who are experiencing acute emotional distress or are at risk of suicide. According to Barak, this service has actively contributed towards

saving life by intervening during an advanced stage of a suicide attempt. Additionally, the service has successfully supported hundreds of other individuals contemplating suicide, de-escalating their risk of death or self-harm. Barak states that online environments can be an ideal setting for managing suicidality owing to the increased disclosure that results from the anonymity afforded by the internet.

Although it would perhaps have been a safer option to exclude individuals at risk of suicide from the MoodGroup intervention, the fact remains that close to half of those seeking this type of support are likely to experience suicidal ideation. Excluding these individuals from the research risked creating a sample that was not representative of help-seeking individuals with depression in the community, in turn decreasing the generalisability of the research findings. Given that there is evidence to support the ability of the online medium to manage suicidality, it was decided that experiencing suicidal ideation or being at risk of suicide would not automatically exclude individuals from participating in the MoodGroup intervention. This decision necessitated a thorough risk management plan, the details of which are described below.

Identifying details. The screening questionnaire completed by all potential participants required their full name, date of birth, e-mail and residential addresses and telephone number. Whilst decreasing anonymity, these details increased the likelihood of emergency services locating at-risk individuals. Participants remained anonymous to each other as they used either their first names or a pseudonym within the groups. The identifying details of the participants were destroyed once they completed or withdrew from the intervention.

Suicide screening questionnaire. The screening questionnaire completed by potential participants also included the Modified Scale for Suicidal Ideation (MSSI; Miller,

Norman, Bishop & Dow, 1986). This scale provides a comprehensive profile of a person's suicide symptoms. It assesses both active and passive symptoms and obtains details regarding the frequency, intensity and duration of suicidal thoughts, risk and protective factors, method, preparation and planning. The scoring of the scale includes cut-off scores indicating whether the intensity of the suicidal ideation is low, mild-moderate or severe. Information related to an individual's risk of suicide provided by this scale formed a vital part of the MoodGroup risk management plan. The psychometric properties of the MSSI are detailed in Chapter 4 (pp. 128-129). Appendix G provides a copy of the questionnaire.

The MSSI results were scored and reviewed by the author within a day of its completion. Individuals with low levels of suicidal ideation were sent an email acknowledging their thoughts and were provided with a referral to Suicide Call Back Service (SCBS), a 24-hour telephone counselling services for individuals at risk of suicide (https://www.suicidecallbackservice.org.au/). A risk assessment was conducted for individuals with mild-moderate or severe levels of suicidal ideation. Where possible, this assessment was conducted via email. Individuals were contacted by phone if their risk of suicide appeared both severe and imminent. The risk assessment aimed to establish the individuals' reasons for wanting to live and die, their risk and protective factors, level and specificity of planning and intention to enact their plan. Following the risk assessment, referrals to SCBS and any other relevant mental health services were provided. Individuals with suicidal ideation were included in the research provided the following criteria were met:

- Deterrent to active attempt
- Clear reasons for living
- Reasons for living outweigh reasons for dying
- Low or absent degree or specificity of planning

- Method and/or opportunity unavailable

- Low or absent sense of courage to undertake a suicide attempt

- Limited competence to undertake a suicide attempt

- Participant states he/she will definitely not make a suicide attempt

- No suicide note left or planned

- No preparation for a suicide attempt undertaken

Individuals who did not satisfy these criteria were provided with appropriate referrals and supports and invited to re-apply to participate once these supports were accessed. The author followed up with these individuals on a monthly basis.

If the results of the MSSI indicated that the individual was at high risk of suicide with a plan pending or in progress, the relevant emergency mental health team was contacted immediately. They were excluded from participation in the research until they could satisfy the afore-mentioned criteria.

The MoodGroup clinical supervisor, a registered clinical psychologist experienced in suicide risk management, oversaw these risk assessments. The author, responsible for conducting the assessments had extensive experience working for online and crisis telephone counselling services and considerable experience managing suicidal clients. The clinical supervisor was consulted prior to and after each risk assessment, except in cases where emergency services were required urgently. Once participants were assigned to groups, the MoodGroup facilitators were informed about those experiencing suicidal ideation. They were also informed about any safety plans or effective supports that had been revealed in the risk assessment.

Facilitator training in suicide risk management. All of the MoodGroup facilitators entered the research project having previously undertaken training on suicide risk

management in face-to-face settings. The focus of the MoodGroup training was therefore on adapting their knowledge and skills to the online environment. The facilitators were taught about the importance of monitoring participants' text-based communication, paying particular attention to changes in pace, phrasing and emotional intensity. They were also informed about the importance of clarifying ambiguous statements and messages in a clear but diplomatic and empathic manner.

Within-session risk management protocol. Group members were informed that they could request a private chat with their facilitator during the group session if they were feeling unsafe or required additional support. Similarly, facilitators concerned about group members could request a private chat to conduct an online risk assessment. Group members were aware that the facilitator could contact them by telephone if necessary. As a sense of hopelessness is a common causal factor linking depression and suicide (Minkoff et al., 1973), facilitators paid careful attention to group members displaying signs of hopelessness. Facilitators also aimed to instill hope in group members during the MoodGroup sessions in an attempt to reduce suicidality.

Facilitators who became concerned about the safety of a group member could contact the author for advice and assistance. They also had access to the clinical supervisor's business and after-hours contact numbers. The author had the capacity to log into the virtual therapy room and review the session transcript. If necessary, she could remain with the affected individual in the private chat room whilst the facilitator worked with the remaining group members in the main room.

A thorough risk assessment was conducted with group members considered to be at risk of self-harm or suicide. Where necessary, safety plans were devised and referrals to appropriate services provided. Group members were aware that emergency mental health

services could be contacted on their behalf if required. The facilitators were responsible for conducting a follow-up with the affected individual to enquire about their safety and emotional wellbeing. This was generally done via e-mail within 24 hours of the event.

In group therapy settings, it is possible for group members to become concerned about the safety of fellow group members, or experience distress when others makes explicit statements regarding their risk of suicide or self-harm. Group members were aware that they could contact their facilitator for additional support should this situation arise. Facilitators were also required to send a follow-up email to group members within 24 hours of such an event to enquire about their emotional wellbeing and provide referrals as required.

Each facilitator devised a protocol with their group regarding the discussion of suicide and self-harm. Group members were advised that it was acceptable to discuss these matters within the MoodGroup sessions on the condition that they did not provide explicit details or communicate in a manner likely to cause distress to others. For example, it was acceptable to reveal the urge to self-harm but not to inform the group that they wanted to cut their skin with a knife. In the event that a discussion surrounding suicide or self-harm occurred within the session, facilitators sent follow-up emails to the group members within 24 hours of the event to check that they were not experiencing any resultant distress.

Summary and Conclusion

This chapter summarised the processes involved in the creation of MoodGroup, an online gCBT intervention for the treatment of depression in Australian adults. It explained the decision to adapt an established face-to-face gCBT intervention and justified the use of the Core Program for this purpose

The process of adapting the Core Program for the purposes of the MoodGroup intervention was described. A thorough review of the literature related to the ideal number of sessions was conducted. After considering recommendations from the Core Program, face-to-face gCBT and online interventions for depression, it was decided that the MoodGroup intervention would consist of an introductory session and eight therapeutic sessions.

An overview of Blackboard Collaborate™, the online web-conferencing software selected for use in the MoodGroup intervention was provided in conjunction with a thorough description of the software's functions and features. A description of the weekly session content was included. Drawing on research on e-learning and maximising online group performance in educational and workplace settings, the decisions related to the presentation and delivery of the weekly MoodGroup sessions were outlined. These included the need to reduce the content provided to participants within the sessions, create detailed and structured session plans that clearly indicated what was expected from participants and use the features within the technology to foster collaboration and interaction. The process of manualising the treatment, including a description of the weekly facilitator guides, templates and session presentations was described.

Details of the recruitment and training of the MoodGroup facilitators were provided along with the clinical supervision model. The decision to include individuals experiencing suicidal ideation was discussed in detail and a comprehensive risk management plan provided. .

In conclusion, the MoodGroup intervention was created on empirically sound principles following careful consideration of the relevant literature. The inclusion of content from an established and well-validated face-to-face gCBT intervention, user-friendly

technology and sound risk management protocols provide a solid framework for the creation

of an intervention that will be both effective and well accepted.

Chapter 4: The Efficacy of the MoodGroup Intervention

Chapter Overview

This chapter presents the findings from a non-randomised controlled trial examining the efficacy of MoodGroup, an online group-based intervention for the treatment of depression in Australian adults. An abundance of previous research supports the treatment efficacy of CBT in group-based face-to-face settings and individual online interventions. This is however, the first controlled trial to examine the effects of online group therapy for adults with clinically significant depressive symptoms. This chapter discusses the importance of online group therapy before outlining the research aims. The methodology and analysis of results are presented, followed by an evaluation of the study's findings. The limitations of this investigation and recommendations for future research are discussed. This chapter addresses the first research question by analysing the efficacy of the MoodGroup intervention in the treatment of Australian adults with clinically relevant symptoms of depression.

Rationale

As indicated in Chapter 1, clinical depression is a major health concern in Australia. First-line intervention for depression is considered a combination of evidence-based psychological treatments such as CBT or pharmacology. gCBT is an evidence-based psychological treatment that consistently demonstrates good treatment outcomes (Oei & Dingle, 2008). However, barriers to treatment including cost, stigma and limited access to service providers (Jackson et al., 2007; Richards, Ryan, McCabe, Groom, & Hickie, 2004) reduce the ability of Australians with depression to access this treatment.

Chapter 2 provided an overview of online therapies for depression. In summary, online therapies have the potential to reduce these treatment barriers, as they are cost-

effective, accessible and can often be undertaken anonymously. Technological advances mean that online therapies are increasingly used to treat mental health conditions (Farvolden et al., 2009). Individually-based online CBT interventions have been recognised as an effective means to treat depression (Spek, Cuijpers, et al., 2007). Online discussion groups for depression have also demonstrated some worth. An online group-based treatment for depression has the potential to harness the benefits of individual online and face-to-face group therapy. However, a paucity of research into this treatment modality exists with a literature search revealing only one online gCBT intervention for depression. As discussed in Chapter 2, the 'Grip op Je Dip' program (http://www.gripopjedip.nl/nl/Home/) provided group-based CBT to adolescents and young adults with depressive symptoms in an online chat room. Results from an RCT evaluating the program indicated that from baseline to three-month follow-up, in comparison to the control group, the treatment group showed significantly greater improvement in depressive symptoms and anxiety with very large effect sizes of 0.94 [95%CI 0.64-1.23] for depression and moderate effect sizes 0.49 [95% CI 0.24-0.75] for anxiety (van der Zanden et al., 2012).

The Grip op Je Dip intervention demonstrated the potential for an online gCBT intervention to reduce depressive symptomatology in adolescents. However, research in adult populations with clinically significant depressive symptoms is lacking. The present research was therefore undertaken to determine if an online group-based intervention could reduce symptoms in Australian adults with a clinically significant depressive disorder.

Research Aims and Hypotheses

This investigation aimed to evaluate the effectiveness of MoodGroup, an online group-based treatment for depression using a non-randomised controlled design. As

described in Chapter 3, MoodGroup was adapted from The Core Program (Paterson, 2006), a widely used face-to-face gCBT intervention for depression.

Past research has demonstrated the effectiveness of both The Core Program and individual online interventions to treat depression (Paterson, 2010; Richards & Richardson, 2012). Based on these findings, it was hypothesised that the treatment group would demonstrate post-treatment reductions on the primary measures of depression and emotional distress and secondary measures of dysfunctional attitudes when compared with the wait-list control (WLC) group. It was also hypothesised that, compared with WLC, the treatment group would demonstrate post-treatment improvements in QoL and behavioural activation.

This investigation additionally aimed to examine the extent to which treatment gains were maintained over time. Previous research consistently demonstrates that CBT-based interventions maintain treatment gains over time. It was therefore hypothesised that those in the treatment group would demonstrate reductions in symptom outcomes and improvements in QoL at six-month follow-up compared with pre-treatment.

Data related to group climate variables were also collected in order to investigate group processes in the online group therapy format. This emerging area of research warrants in-depth analysis and exploration. Consequently, the research findings pertaining to MoodGroup's online group processes are discussed separately in Chapter 5.

Methodology

Research Ethics

The RMIT Human Research Ethics Committee provided approval for this research; project number 33/11 titled 'The efficacy of an online group therapy program for the treatment of depression in Australian adults'. See Appendix E for more information.

Power Analysis

Power analysis revealed that in order for a modest Cohen's *d* effect size of 0.55 (Cohen, 1998) to be determined as significant at the 5% level with a power of .80, a sample of 160 participants was required. As participant recruitment was heavily influenced by practical constraints including availability of facilitators and participants and a limited recruitment period, low power was anticipated.

Recruitment of Participants

The recruitment period spanned seven months, from August 2013 to March 214. Multiple strategies were used to recruit participants. A nation-wide media release resulted in a number of radio interviews and an article in the Melbourne newspaper MX. The Australian Psychological Society advertised the research on their website. The research was promoted to students of RMIT University and Open Universities Australia. Information about the research was also posted on Facebook, Twitter and relevant online support groups and forums. MoodGroup was further listed in the online Jigsaw Community database (http://jigsaw.ontheline.org.au/).

A MoodGroup information website was established (http://www.rmit.edu.au/psychology/moodgroup), containing details about the research along with a plain language statement and a link to an online screening questionnaire hosted by Qualtrics™ (https://rmit.asia.qualtrics.com/SE/?SID=SV_6zpIJ8FxzYZCzGd). The screening questionnaire included an acknowledgement of informed consent, information related to the voluntary nature of participation and the participant's right to withdraw from the research. Those who completed the screening questionnaire were emailed within a week to confirm their research eligibility.

Participants

Inclusion criteria. Individuals were eligible for inclusion in this research if they: (1) were aged over 18 years; (2) currently resided in Australia; (3) had access to a computer with an internet connection; (4) scored 20 or above on the Major Depression Inventory; (5) had low risk of suicide as determined by a score of 9 or below on the Modified Scale for Suicidal Ideation or satisfactory clinical risk assessment for scores above 9.

Applicants who did not meet all five criteria were excluded from participation. These applicants were emailed to thank them for their interest. Alternate resources and referrals were provided. Risk assessments via phone or email were conducted for participants deemed to be at risk of suicide. These participants were provided with referral and support information and encouraged to re-apply once they had accessed these supports.

In total, 223 individuals clicked on the link to the screening questionnaire. Of those, 112 completed the screening questionnaire. Twenty of those who completed the questionnaire did not meet inclusion criteria (9 applicants scored below cut-off on the Major Depression Inventory, 2 provided incorrect contact details and 9 were deemed to be at elevated risk of suicide). The remaining 92 individuals met eligibility criteria and were accepted into the research project. The Consolidated Standards of Reporting Trials (CONSORT) guidelines diagram in Figure 3 provides a visual representation of these figures.

Voluntary nature of participation. All participants were told their participation in the research was voluntary and that they were free to withdraw at any time and withdraw any identifiable data.

Randomisation. The RAND function in Microsoft$^©$ Excel 2010 generated a random number for each eligible participant. Those with even numbers were assigned to the
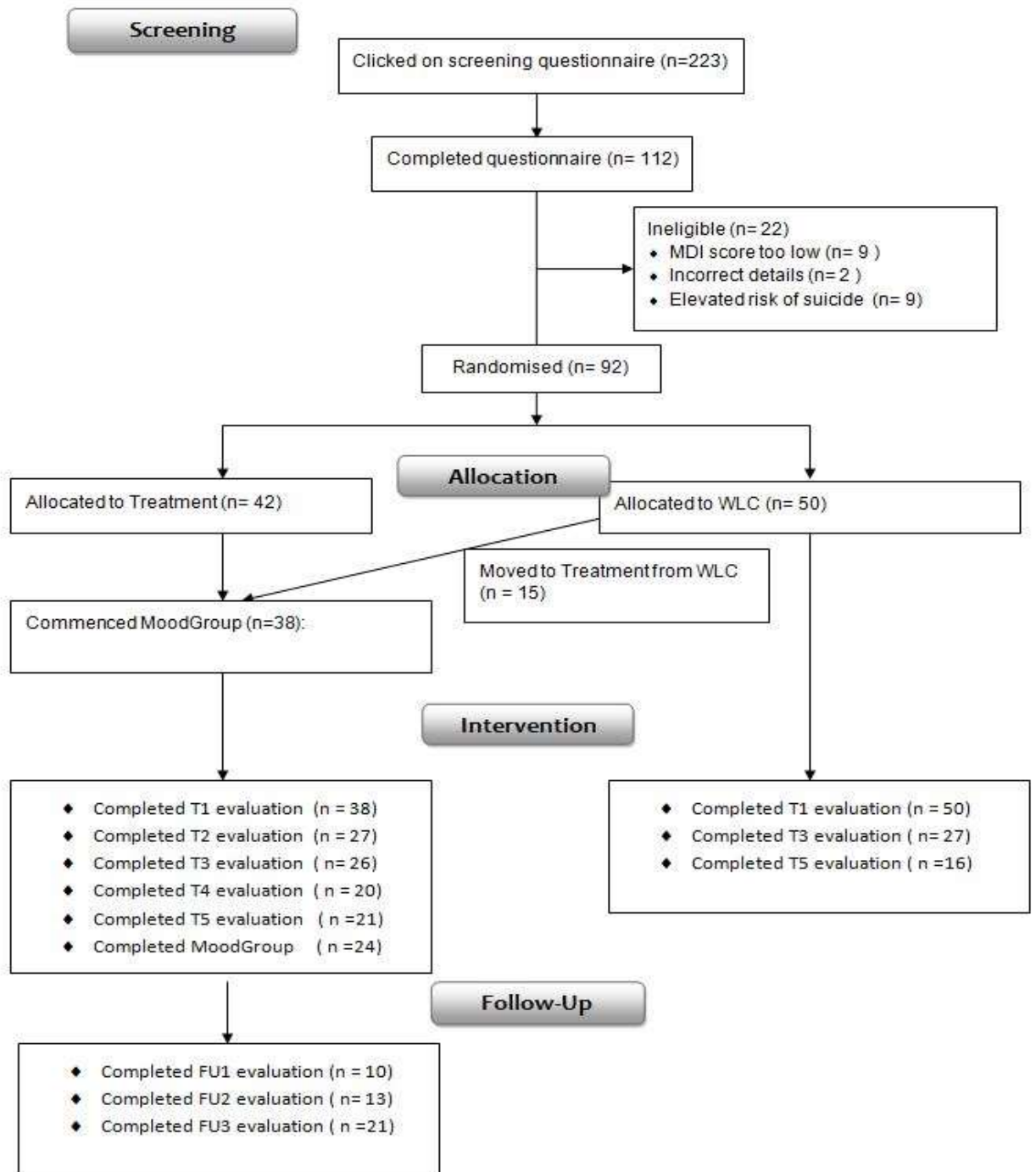
Figure 3. Participant flowchart following CONSORT guidelines. FU1= One-month follow-up; FU2= Two-month follow-up; FU3= six-month follow-up; MDI = Major Depression Inventory (Bech, Rasmussen, Olsen, Noerholm, & Abildgaard, 2001);T1= baseline; T3= midpoint, T5= endpoint/post-treatment; WLC= waitlist control.

treatment group whilst those with odd numbers were assigned to the WLC. Individuals in the treatment group were provided with the dates and times of MoodGroups and invited to participate. Those who were wait-listed were invited to complete progress questionnaires prior to their inclusion in a MoodGroup. Wait-list participants were required to wait nine weeks, the length of the MoodGroup intervention. Owing to ethical considerations related to withholding treatment, they were not required to wait for follow up data to be collected from the treatment group participants before being offered access to the intervention.

MoodGroups could only run with a minimum of six participants. The timing of groups was dependent on the (often limited) availability of the facilitators. This created the undesirable potential for lengthy treatment delays, increasing the risk of attrition. To avoid this, waitlist participants were invited to join a MoodGroup when it was almost full. The participants who accepted the offer and thus formed part of both the wait-list and treatment conditions were tagged as being part of a combined group. Once these wait-list participants moved to the treatment group no further WLC data were collected from them.

Whilst not ideal, prematurely allowing wait-list participants into MoodGroups, and including their data as part of the treatment group, permitted a greater number of groups to be run. This maximised the intervention's availability and substantially reduced waiting times for those in the treatment group. It also capitalised on the limited availability of the MoodGroup facilitators. Protocols for analysing the treatment, WLC and combined groups adapted from Bedi and colleagues (2000) are provided later in this chapter.

Measures

The outcome measures were selected primarily because of their sound psychometric properties and their widespread use in studies examining the efficacy of group treatments for depression. Where possible, outcome measures validated for use online were selected.

All outcome measures were administered online via Qualtrics™. In addition to the primary and secondary measures administered throughout the research, the screening questionnaire requested participants' contact details, demographic information and internet-use characteristics and screened for risk of suicide.

Treatment group participants who commenced a MoodGroup were requested to complete weekly online Session Evaluation Questionnaires (see Appendix E). Following their first session they were emailed a link to the online questionnaire containing the outcome measures serving as the baseline, or first data collection time-point (T1). They were thereafter emailed with requests to complete online outcome measure questionnaires at fortnightly intervals until the endpoint, the ninth week of their program (T5). They were also requested to complete follow-up questionnaires one (FU1), three (FU2) and six months (FU3) after MoodGroup completion. The screening questionnaire served as the first data collection time point (T1) for those assigned to the WLC. These participants where emailed five and nine weeks thereafter with the links to the mid (T3) and endpoint questionnaires (T5). Table 5 summarises the outcome measures used at each time point for the treatment and control groups. A description of each outcome measure is also provided.

Demographic characteristics. This section comprised 10 questions covering gender, age, level of education, occupation, employment status, annual income and country of birth. For risk management purposes, respondents were asked to provide their full name and contact details. They were also asked to create a unique identification code by entering the first letter of their first name, the first three letters of their surname and their date of birth. This unique code became the participants' identifier and participants were prompted to provide it each time they completed questionnaires throughout the research project.

Table 5

Outcome Measure Time Points for the Treatment and WLC Groups

	Screening	T1	T2	T3	T4	T5	FU1	FU2	FU3
Demographics	TW								
Internet-use	TW								
MSSI	TW								
Current treatment	TW	T	T	TW	T	TW	T	T	T
MDI	TW	T	T	TW	T	TW	T	T	T
DASS-21	TW	T	T	TW	T	TW	T	T	T
QOLI-S	TW	T		TW		TW	T	T	T
BADS-T	TW	T		TW		TW	T	T	T
DAS-SF1	TW	T		TW		TW	T	T	T

Note. T = Treatment group; W = Waitlist Control (WLC) group. T1= baseline; T3= midpoint; T5=post-treatment; FU1= 1-month follow-up; FU2= 3-month follow-up; FU3= six-month follow-up. Screening data were used as T1 for the WLC. MSSI = Modified Scale for Suicidal Ideation(Miller et al., 1986) ; MDI = Major Depression Inventory (Bech et al., 2001); DASS-21 = Depression Anxiety and Stress Scales 21 (Lovibond & Lovibond, 1993); QOLI-S = Quality of Life Inventory-Shortened (Frisch 1994); BADS-T = Behavioural Activation for Depression Scale (Kanter, Mulick, Busch, Berlin, & Martell, 2007); DAS-SF1 = Dysfunctional Attitudes Scale Short Form 1(Beevers, Strong, Meyer, Pilkonis, & Miller, 2007).

Internet-use characteristics. These four questions asked respondents to detail their years of internet use, confidence in using the internet, average daily time spent on the internet and primary purpose for using the internet.

Current treatment. Respondents were asked to provide details of treatment(s) they were currently receiving for their depression. If this treatment included medication, respondents were asked to list the name of the medication, the daily dose and length of time they had been taking the medication.

Modified Scale for Suicidal Ideation (MSSI). (MSSI; Miller et al., 1986). This 18-item scale is a revised version of the Scale for Suicidal Ideation (SSI; Beck, Kovacs & Weissman, 1979). It measures suicide symptoms over the past two days. Although the first four items can be used for screening, the full scale was administered to all applicants to obtain a comprehensive profile of their suicidality. Each item on the MSSI is rated on a 0-3

point scale. Ratings are summed to yield a total score ranging from 0 to 54. Cut-off scores are provided for low (0-8), mild-moderate (9-20) and severe (21 and above) intensity of suicidal ideation. The MSSI has high internal consistency, with Cronbach alpha coefficients ranging from .87 (Clum & Yang, 1995) to .94 (Miller et al., 1986), good item-total correlations (.41 to .83; Miller et al., 1986) and adequate test-retest reliability (r= .65) over a fortnight (Clum & Yang, 1995). Concurrent validity of the MSSI has been established with the MSSI demonstrating significant correlations with the total Beck Depression Inventory (r = .34; Miller et al., 1986), the Zung Depression Scale (r = .45; Clum & Yang, 1995), and the Beck Hopelessness Scale (r = .46; Clum & Yang, 1995). In this investigation, Cronbach's alpha at screening was .49. The use of the full scale for all participants, including those who passed the screening, and the online nature of administration could account for the low Cronbach's alpha observed in this investigation. The MSSI was utilised for screening and risk management purposes only and was therefore not used an outcome measure. Appendix G provides a copy of the MSSI.

Major Depression Inventory (MDI). Bech (1997) developed this self-report questionnaire. Including both the ICD-10 and DSM-IV symptoms of depression, it provides an estimate of symptom severity allowing both the presence and severity of a depressive disorder to be determined. The inventory assesses depressive symptoms over the previous fortnight. Responses are given on a 0-5 scale (0 = At no time to 5 = All the time). Total scores range from 0-50, with higher scores indicating greater severity of depression. Cut-off scores for mild (20-24), moderate (25-29) and severe (30 and above) depression are provided (Olsen, Jensen, Noerholm, Martiny, & Bech, 2003). The inventory takes 5 – 10 minutes to complete. The MDI has good psychometric properties (Cuijpers, Dekker, Noteboom, Smits, & Peen, 2007). Its sensitivity reportedly ranges between 0.86 and 0.92 and its specificity

between 0.82 and 0.92 (Bech, Rasmussen, Olsen, Noerholm & Abildgaard, 2001). It correlates strongly with other depression measures, with reported Cronbach's alpha of .89 (Cuijpers et al., 2007). The MDI is validated for use over the internet (Cujipers et al., 2008). In this investigation, the Cronbach' alpha for pre-treatment scores was .82. Appendix H provides a copy of the MDI.

Depression Anxiety Stress Scales 21 (DASS-21). The DASS-21 is the short-form version of the DASS, a 42-item self –report measure designed by Lovibond and Lovibond (1993) to measure the negative emotional states of depression, anxiety and stress. It comprises three seven-item self-report scales that can be summed to form a total score. A four-point severity scale measures the extent to which symptoms of each state have been experienced over the past week. The DASS-21 is validated for use as a clinical outcome measure (Ng et al., 2007). An investigation of the internal consistencies of the DASS-21 in both a clinical and non-clinical sample revealed Cronbach's alpha of .94 for the Depression scale, .87 for the Anxiety scale and .91 for the Stress scale (Antony, Bieling, Cox, Enns, & Swinson, 1998). The DASS-21 further demonstrates good convergent, concurrent and discriminant validity when compared with other validated measures of depression and anxiety (Antony et al., 1998; Henry & Crawford, 2005). In the current investigation, Cronbach's alpha at pre-treatment was .85 for depression, .84 for anxiety, .83 for stress and .90 for DASS-21 total. Appendix I provides a copy of the DASS-21.

Quality of Life Inventory-Shortened (QOLI-S). This shortened version of the QOLI (Frisch, 1994) comprises eight items measuring life satisfaction across areas including love, work, recreation and spirituality. This self-report measure takes approximately five minutes to complete. Test-retest coefficients range from .80 to .91. Internal consistency coefficients across clinical and non-clinical samples range from .77 to .89. This measure

demonstrates sufficient construct and criterion-related validity (Frisch, 1994; Frisch, Cornell, Villanueva, & Retzlaff, 1992). Cronbach's alpha at pre-treatment in this investigation was .75. Appendix J provides a copy of the QOLI-S.

Dysfunctional Attitudes Scale- Short Form 1(DAS-SF1). The DAS-SF1 was developed by Beevers, Strong, Meyer, Pilkonis and Miller (2007). This nine-item self-report measure is based on the original 40-item Dysfunctional Attitudes Scale, form A (DAS-A; Weissman, 1979). It measures cognitive distortions commonly associated with depression. Using a four-point scale (1= Totally agree and 4= Totally disagree), respondents rate the extent to which each item describes their attitude most of the time. The DAS-SF1 demonstrates good adequate internal consistency reliability (α = .84). It has good concurrent validity, significantly correlating with other measures of depression such as the Beck Depression Inventory. It also demonstrates good convergent and predictive validity (Beevers et al., 2007). Cronbach's alpha at pre-treatment in the current investigation was .88. Owing to an administrative error, the ninth item of the DAS-SF1 ("*It is best to give up your own interests in order to please other people*") was omitted on the majority of the online questionnaires. Consequently, the mean and not the scale total of the DAS-SF1are reported. Appendix K provides a copy of the DAS-SF1.

The Behavioral Activation for Depression Scale (BADS). Developed by Kanter, Mulick, Busch, Berlin and Martell (2007), this 25-item self-report questionnaire measures changes in behavioural activation or non-depressed, healthy behaviours. The BADS comprises four subscales measuring the following domains: Behavioural Activation, Avoidance/Rumination, Work/School Impairment and Social Impairment. Items related to these domains are presented as statements. Using a seven-point scale (0 = Not at all and 6 = Completely), respondents are asked to consider the truth of each statement over the past

week. Subscale items are summed to generate subscale scores. A total score, representing the overall extent of behavioural activation, can be calculated. The BADS demonstrates sound psychometric properties. Cronbach's alpha for the BADS total has been reported at .87. Cronbach's alpha for the Activation, Avoidance/Rumination, Work/School Impairment and Social Impairment subscales have been reported at .85, .86, .76 and .82 respectively. Sufficient test-test reliabilities have also been reported (Activation $r = .60$, Avoidance/Rumination $r = .76$, Work/School Impairment $r = .64$, Social Impairment $r = .64$). The BADS further demonstrates good construct validity (Kanter et al., 2007). In the current investigation, Cronbach's alpha at pre-treatment was .87 for BADS total, .82 for Activation, .80 for Avoidance/Rumination, .73 for Work/School Impairment and .83 for Social Impairment. Appendix L provides a copy of the BADS. For the purpose of this thesis, the term BADS-T refers to the BADS total score.

Facilitators

The recruitment, training and supervision of the MoodGroup facilitators is described in Chapter 3 (pp. 111-112).

Communication with group members. A MoodGroup email account was established as the primary method of communication between MoodGroup facilitators and group members. The facilitators emailed group members weekly to remind them about their session, and to provide them with the links to their online session and post-session questionnaires. Facilitators also emailed the pre-readings and home practice activities to the group members each week. Group members could email the facilitators as frequently as required. Where possible, responses were provided within 48 hours. At times, facilitators were required to follow-up with group members after sessions. For example, a group

member expressing distress during a session would be emailed by the facilitator afterwards to check on their safety and wellbeing. Facilitators also emailed group members with referrals to additional health care services as required. Follow-up emails were sent to members who did not attend a session. These emails expressed concern for the group member and encouraged him/her to return. Group members were only able to contact their facilitators via the MoodGroup email. However, they were aware that either their facilitator or the author could contact them via telephone should concerns for their safety arise.

Treatment Group

In total, six MoodGroups lasting nine weeks each were conducted between October 2012 and February 2013. With the exception of one Saturday morning group, all groups were conducted on weekdays in the late afternoon or early evening (Eastern Standard Time). All MoodGroup sessions were two hours in duration. For risk management purposes, the identity and contact details of each group member was known to the facilitator but members had the choice of using either their first name or a user name during sessions. Group members could therefore remain anonymous within the group. Each week, group members were emailed the link to their online session approximately 30 minutes prior to its commencement. Immediately after their session, they were emailed a session summary and links to the weekly online questionnaires. Attached to these emails were the relevant readings and home practice activities for the upcoming week. A detailed description of the MoodGroup intervention can be found in Chapter 3.

Each group comprised a maximum of nine members. A total of 57 participants were assigned to MoodGroups. However, only 38 of these commenced a group. Twenty six members completed to the midpoint of the program, with 24 of these completing the entire

intervention. However, only 21 of these completed the post-treatment and six-month follow-up measures.

WLC Group

Fifty participants were randomly assigned to the WLC group. These participants were made aware that they had been placed on a waiting list prior to accessing a MoodGroup, and that they were required to complete online progress questionnaires prior to their inclusion in MoodGroup. A link to the midpoint and endpoint questionnaires was emailed to these participants five and nine weeks after their completion of the initial MoodGroup screening questionnaire. Twenty seven participants completed the midpoint questionnaire whilst 16 completed the endpoint questionnaire.

As mentioned previously, at times those in the WLC were invited to participate in a MoodGroup when additional group members were required for one to be run. Fifteen participants from the WLC elected to participate in a MoodGroup under these circumstances. Two of these participants completed the midpoint WLC questionnaires and additional four of these participants completed both the midpoint and endpoint questionnaires prior to being re-assigned to the treatment group.   Of the remaining 45 WLC participants, nine completed both the midpoint and endpoint questionnaires and were therefore offered a place in a MoodGroup. This group was run after the completion of data collection for the overall project. Consequently, their data were not included in the project.

<div align="center">

Statistical Analysis

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The raw data were imported from Qualtrics™ into Microsoft$^{©}$ Excel 2010. Where required, data were reverse-scored and subscale scores calculated. Once completed, data

were imported into the Statistical Package for the Social Sciences Version 21 (SPSS 21), where it was cleaned and screened prior to undergoing statistical analysis.

Assumption Testing

Outcome variable data were assessed to determine whether the assumptions of normality and homogeneity of variance were met. The distributions of the outcome measures were examined using visual inspection of the data plots, skew, kurtosis and P-plots to determine normality. Homogeneity of variance was assessed inferentially using Levene's test. In the treatment group, skewness and kurtosis were observed on the MDI, DASS-A, DASS-S and DAS-SF1. However, as the linear model used in the forthcoming analyses is relatively robust to assumptions of normality, no further action was taken (Gellman & Hill, 2007). All outcome variables met the assumption of homogeneity of variance (Field, 2003).

Overview of Analyses

Data were examined in three separate sets of analyses. The first analysis compared the treatment and WLC groups ($N = 92$). There was a large amount of missing data owing to high rates of attrition in both groups, the details of which are presented in the results section. Linear mixed-effects models were therefore used for the analysis of repeated measurement data. Linear mixed-effects models include all valid observations at each time point. This data analysis method increases statistical power whilst decreasing the bias that may occur when respondents with incomplete data are excluded from the analysis (Cnaan, Laird, & Slasor, 1997). Furthermore, compared with data imputation, linear mixed-effects models make fewer assumptions about the nature of the missing data , therefore producing more reliable estimates (Kalton & Kasprzyk, 1982). This model can also accommodate groups with unequal variance (Bolker et al., 2009).

Effects of allocation and pre-treatment effects. To examine whether a selection bias occurred in the randomisation process, the demographic characteristics and baseline data of the treatment, WLC and combined groups were compared using single-factor, between-subjects ANOVAS. Fisher's Exact Test was used for nominal variables. Once it was established that no selection bias occurred, the treatment, WLC and combined groups were divided into an overall treatment and WLC group. These two groups were compared for any pre-treatment differences using single-factor, between-subjects ANOVAS. Fisher's Exact Test was used for nominal variables.

Intervention effects. A two-way linear mixed-effects analysis examined the outcome variables at three time-points (T1, T3 and T5) for treatment and WLC groups. Time was included as categorical repeated measures factor and group as the categorical between-subjects factor. A variety of covariance structures were used to compare the models. The compound symmetry model provided the best fit for all outcome variables. The assigned level of probability for statistical significance was .05. Cohen's *d* effect sizes were interpreted in the following manner: < 0.2, small; $0.3 - 0.5$, medium; $0.6 - 0.8$, large and > 0.9, very large (Cohen, 1988).

Completers' analysis. The second set of analyses involved only treatment group participants who completed the MoodGroup intervention ($n = 21$) and provided six-month follow up data ($n = 21$) and WLC participants who completed endpoint questionnaires ($n = 15$). Pre, post and six-month follow up scores on all outcome measures were compared using simple linear mixed-effects models with time included as the categorical repeated measures factor. A variety of covariance structures were used to compare the models with compound symmetry providing the best fit for all variables. Clinical significance was derived from the principles specified by Jacobson and Truax (1991). Post-treatment scores on outcome

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measures with available normative data were defined as clinically significant if they fell within two standard deviations of the mean of the normal population. When normative data was unavailable, clinical significance was defined as being post-treatment scores that extended two or more standard deviations beyond the sample mean in the direction of greater functionality. Table 6 summarises the norms, means and standard deviations used to determine clinical significance for each outcome measure. Fischer's Exact Test was used to determine the difference in proportions of obtained clinical significance for MoodGroup completers and those in WLC.

Table 6

Data Used to Determine Clinical Significance

	Normative data available			Normative data unavailable	
Measure	*M*	*SD*	Description	*M*	*SD*
MDI			-	29.87	9.43
DASS-T			-	57.13	21.95
DASS-D	6.34	6.97	Australian sample, non-clinical		
DASS-A	4.70	4.91	Australian sample, non-clinical		
DASS-S	10.11	7.91	Australian sample, non-clinical		
QOLI-S			-	27.88	7.65
BADS-T	122.07	20.65	American sample, non-clinical		
DAS-SF1			-	2.60	0.64

Note: MDI = Major Depression Inventory (Bech et al., 2001); DASS-T = Depression Anxiety and Stress Scales 21Total Score; DASS-D = DASS 21 Depression subscale; DASS-A = DASS 21 Anxiety subscale; DASS-S = DASS-21 Stress subscale; (Lovibond & Lovibond, 1993); QOLI-S = Quality of Life Inventory-Shortened (Frisch 1994); BADS-T = Behavioural Activation for Depression Scale (Kanter et al., 2007); DAS-SF1 = Dysfunctional Attitudes Scale Short Form 1(Beevers et al., 2007)

Completer characteristics. The third set of analyses involved only those in the treatment condition. To determine whether there were differences in the characteristics of MoodGroup completers and non-completers, treatment group participants were divided into three groups: those who were offered a MoodGroup but who never commenced (Non-commencers; $n = 19$), those who commenced a MoodGroup but did not complete (Commencers; $n = 14$) and those who completed a MoodGroup (Completers; $n = 24$). The

differences in the demographic and baseline characteristics of these three groups were investigated using contingency chi-squared analyses and ANOVAS.

Results

The results of analyses are presented in seven separate sections: attrition, effect of allocation, pre-treatment evaluation, intervention effects, change over time, clinical significance and completer characteristics.

Attrition

Of the 57 individuals assigned to the treatment group, 52 (91.23%) elected to participate in a MoodGroup. 19 (33%) of these individuals did not commence a MoodGroup whilst a further 14 (24.56%) commenced but did not complete a MoodGroup. Of the 24 participants who completed a MoodGroup, 3 (12.50%) did not provide data at the six-month follow-up.

Of the 50 individuals assigned to the WLC group, 23 (46%) did not complete the midpoint questionnaires and 34 (68%) did not complete the endpoint questionnaires. Figure 4 provides a summary of the number of completed questionnaires at each time point for the treatment and WLC groups.
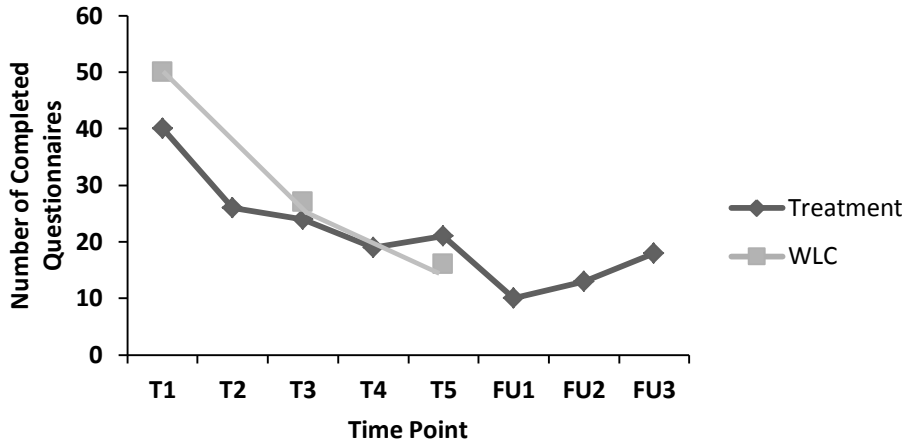
Figure 4. Numbers of completed questionnaires across treatment and WLC groups. FU1= One-month follow-up; FU2= Two-month follow-up; FU3= six-month follow-up; T1= baseline; T3= midpoint, T5= endpoint/post-treatment; WLC= waitlist control.

Effect of Allocation

To examine whether a selection bias occurred in the allocation process, the demographic characteristics and baseline data of the treatment, WLC and combined groups were compared using one-way ANOVAS or Fisher's Exact Test. Table 7 summarises these comparisons.

No significant differences occurred between these three groups in demographic information, internet-use characteristics and concurrent treatment use. The three groups did not differ significantly in any of the pre-treatment outcome measures except for the QOLI-S, $F(2, 441.06) = 3.74$, $p = .03$. Pairwise comparisons revealed that treatment group ($M = 30.55$, $SD = 8.51$, 95% CI [27.90, 33.20]) demonstrated significantly higher QoL scores than the WLC ($M = 25.74$, $SD = 7.02$, 95%CI [23.31, 28.16]), $p = .03$. Comparison between the combined group ($M = 28.20$, $SD = 6.59$, 95% CI [24.55-31.85]) and the other two groups revealed no significant differences. It was therefore concluded that a selection bias did not occur in the randomisation process and that few systemic differences between the treatment, WLC and combined groups existed. However, owing to the significant difference in these

three groups on QoL, the QOLI-S was included as a covariate in the pre-treatment

evaluations.

Table 7

Comparison of Demographic and Pre-Treatment Characteristics between Treatment, WLC and

Combined Groups

		Treatment ($n = 42$)	WLC ($n = 35$)	Combined ($n = 15$)	F	p
Gender					-	.30[a]
Female		33 (78.6%)	30 (85.7%)	10 (66.7%)		
Male		9(21.4%)	5 (14.3%)	5 (33.3%)		
Age					0.27	.77[b]
M (SD)		38.12 (12.42)	38.80 (12.04)	36.07 (11.91)		
Range		20-68	20-68	19-55		
Education						.09[b]
High school		7 (16.7%)	10 (28.6%)	7 (46.7%)		
Certificate qualification		4(9.5%)	6 (17.1%)	0 (0.0%)		
University degree		16 (38.1%)	9 (25.7%)	3 (20.0%)		
Postgraduate qualification		10 (23.8%)	3 (8.6%)	4 (26.7%)		
Missing		5 (11.9%)	7 (20.0%)	1 (6.7%)		
Employment					-	.40[b]
Unemployed		11 (26.2%)	9 (25.7%)	5 (33.3%)		
Student		9 (21.4%)	2 (5.7%)	2 (13.3%)		
Casual or part- time		12 (28.6%)	11 (31.4%)	3 (20.0%)		
Full-time		10 (23.8%)	10 (28.6%)	5 (33.3%)		
Business owner		0 (0.0%)	3 (8.6%)			
Internet confidence					-	.30[b]
Somewhat confident		2 (4.8%)	3 (8.6%)	0 (0.0%)		
Confident		7 (16.7%)	11 (31.4%)	2 (13.3%)		
Very confident		33 (78.6%)	21 (60.0%)	13 (86.7%)		
Internet years						
[mean (SD)]		13.62 (4.60)	13.0 (5.12)	11.87 (3.07)	0.81	.45[a]
Range		4-30	7-30	5-15		
Current treatment					-	.78[b]
Nothing		10 (23.8%)	7 (20.0%)	5 (33.3%)		
Medication only		12 (28.6%)	9 (25.7%)	3 (20.0%)		
Psychotherapy only		6 (14.3%)	5 (14.3%)	1 (6.7%)		
Combined		14 (33.3%)	14 (40.0%)	5 (33.3%)		
Other		0 (0.0%)	0 (0.0%)	1 (6.7%)		
MDI	[*M (SD)*]	29.57 (8.91)	32.17 (8.19)	31.20 (9.78)	0.85	.43[a]
DASS-T	[*M (SD)*]	58.05 (29.21)	59.77 (20.62)	57.51 (27.26)	0.08	.92[a]
QOLI-S	[*M (SD)*]	30.55 (8.51)	25.74 (7.02)	28.20 (6.59)	3.74	.03[a]
BADS-T	[*M (SD)*]	69.55 (23.26)	59.29 (21.96)	57.71 (22.83)	2.27	.11[a]
DAS-SF1	[*M (SD)*]	2.65 (.69)	2.74 (.65)	2.41 (.63)	1.15	.32[a]

Note. a From Fisher's Exact Test. b From one-way ANOVA. MDI = Major Depression Inventory (Bech et al., 2001); DASS-T = Depression Anxiety and Stress Scales 21 Total Score (Lovibond & Lovibond, 1993); QOLI-S = Quality of Life Inventory-Shortened (Frisch 1994); BADS-T = Behavioural Activation for Depression Scale (Kanter et al., 2007); DAS-SF1 = Dysfunctional Attitudes Scale Short Form 1(Beevers et al., 2007) .

Pre-Treatment Evaluation

The allocations analysis revealed few systemic differences between the treatment, WLC and combined groups. As recommended by Bedi and colleagues (2000) these three groups were combined into an overall treatment and WLC group. The wait-list data from those in the combined group was included in the control group analysis up until they were moved from the control group to the treatment group. Their treatment data were included in the treatment group analysis once they were assigned to the treatment group. Demographic characteristics and pre-treatment outcome measures were compared using Fisher's Exact Test and one-way ANCOVAS controlling for QoL.

As summarised in Table 8, no significant differences existed between the groups on any of the measured demographic or internet-use characteristics. With QoL included as a covariate, the two groups did not differ significantly on any of the pre-treatment outcome measures. The primary measures were significantly correlated ($r = .69$, $p = .00$). Significant correlations were also found between all secondary measures ($r = -.60$ to $r = .54$, $p, < .05$).

Intervention Effects

Two-way linear mixed-effects analyses examine the differences between the Treatment and WLC group at the start (T1) and end (T5) of the intervention. Table 9 presents the mean pre-and post-test scores on the primary (MDI and DASS) and secondary (QOLI-S, BADS-T and DAS-SF1) outcome measures.

Table 8

Comparison of Demographic and Pre-Treatment Characteristics between Overall Treatment and WLC Groups

Variable		Overall treatment (*n* = 57)	Overall WLC (*n* =50)	*F* ANCOVA	*p*
Gender				-	.57[a]
Female		43 (75.4%)	40 (80%)		
Male		14 (24.6%)	10 (20%)		
Age	[*M (SD)*]	37.58 (12.22)	37.98 (11.95)	0.00	.99[b]
Education				-	.29[a]
High school		14 (24.6%)	17 (34%)		
Certificate qualification		4 (7%)	6 (12%)		
University degree		19 (33.3%)	12 (24%)		
Postgraduate qualification		14 (24.6%)	7 (14%)		
Employment				-	.20[a]
Unemployed		16 (28.1%)	14 (28%)		
Student		11 (19.3%)	4 (8%)		
Casual or part- time		15 (26.3%)	14 (28%)		
Full-time		15 (26.3%)	15 (30%)		
Business owner		0 (0%)	6 (6%)		
Internet confidence				-	.32[a]
Somewhat confident		2 (3.5%)	3 (6%)		
Confident		9 (15.8%)	13 (26%)		
Very confident		46 (80.7%)	34 (68%)		
Internet years	[*M (SD)*]	13.16 (4.3%)	12.66 (4.60)		
Hours per day of internet use				-	.95[a]
0-1		3 (5.3%)	2 (4%)		
1-5		34 (59.6%)	29 (58%)		
5-10		17 (29.8%)	17 (34%)		
10-15		3 (5.3%)	2 (4%)		
Current treatment				-	.97
Nothing		15 (26.3%)	12 (24%)		
Medication only		16 (28.1%)	12 (24%)		
Psychotherapy only		7 (12.3%)	6 (12%)		
Combination		18 (31.6%)	19 (38%)		
Other		1 (1.8%)	1(2%)		
MDI	[*M (SD)*]	28.12 (9.13)	31.88 (8.60)	3.29	.07
DASS-T	[*M (SD)*]	55.40 (21.46)	59.09 (22.55)	0.10	.75
QOLI-S	[*M (SD)*]	29.11 (8.09)	26.48 (6.92)	3.21	.08
BADS-T	[*M (SD)*]	69.02 (22.10)	58.76 (21.99)	3.66	.06
DAS-SF1	[*M (SD)*]	2.57 (0.64)	2.63 (0.66)	0.05	.82

Note. [a] From Fisher's Exact Test. [b] From one-way ANOCOVA. WLC= wait-list control; MDI = Major Depression Inventory (Bech et al., 2001); DASS-T = Depression Anxiety and Stress Scales Total Score (Lovibond & Lovibond, 1993); QOLI-S = Quality of Life Inventory-Shortened (Frisch 1994); BADS-T = Behavioural Activation for Depression Scale (Kanter et al., 2007); DAS-SF1 = Dysfunctional Attitudes Scale Short Form 1(Beevers et al., 2007).

Table 9

Outcome Measure Comparison between Treatment and WLC Groups Across Time

Variable	Treatment		WLC		F	p	d	95% CI	
	M	*SD*	*M*	*SD*				*LL*	*UL*
Primary measures									
MDI					1.93	.17	0.55	-0.05	1.15
T1	28.02	9.74	31.88	8.61					
T5	15.71	9.60	25.80	11.91					
DASS-T					2.19	.14	0.71	0.14	1.23
T1	55.12	21.21	59.10	22.54					
T5	34.67	23.43	53.60	25.21					
DASS-D					3.19	.08	0.74	0.17	1.30
T1	22.18	8.76	24.84	9.50					
T5	13.53	9.76	22.53	10.91					
DASS-A					1.23	.26	0.65	0.10	1.20
T1	13.26	8.70	13.44	10.07					
T5	7.43	8.30	13.33	9.03					
DASS-S					0.07	.79	0.31	-0.25	0.87
T1	19.68	8.60	21.28	9.30					
T5	13.71	8.77	17.73	8.48					
Secondary measures									
QOLI-S					5.12	.03	0.5	0.05	1.05
T1	29.04 (8.18)		26.45	6.99					
T5	33.43 (7.49)		26.67	7.97					
BADS-T					0.45	.51	0.21	0.40	0.84
T1	69.19 (22.28)		59.49	21.74					
T5	89.67 (19.79)		74.67	23.87					
DAS-SF1					3.12	0.08	0.76	0.16	1.36
T1	2.56 (.63)		2.62	0.66					
T5	2.09 (.51)		2.64	0.58					

Note. T1=baseline; T5= post-treatment. For Treatment: T1 (*n* = 57); T5 (*n* = 21). For WLC: T1 (*n* = 50); T5 (*n* = 15). *d* = Cohen's *d;* CI = Confidence Interval; *LL* = lower limit; *UL* = upper limit. MDI = Major Depression Inventory (Bech et al., 2001); DASS-T = Depression Anxiety and Stress Scales 21 Total Score; DASS-D = DASS 21 Depression subscale; DASS-A = DASS 21 Anxiety subscale; DASS-S = DASS-21 Stress subscale; (Lovibond & Lovibond, 1993); QOLI-S = Quality of Life Inventory-Shortened (Frisch 1994); BADS-T = Behavioural Activation for Depression Scale (Kanter et al., 2007); DAS-SF1 = Dysfunctional Attitudes Scale Short Form 1(Beevers et al., 2007).

Tests for fixed effects indicated no significant post-test differences between the

treatment and WLC group on the primary measures, namely the MDI, DASS-T, DASS-D,

DASS-A and DASS-S. On the secondary measures, a significant difference between the

treatment and WLC at post-test was found for the QOLI-S, $F(1, 47.70) = 5.12$, $p = .03$, $d = -0.5$, 95%CI [-1.05-0.05] but not for the BADS-T or the DAS-SF1. Between-group effect sizes for all variables favoured the treatment over the WLC group. Strong between-group effect sizes ($d = 0.65$-0.74) were noted for measures of depression, psychological distress, anxiety and dysfunctional attitudes.

To further examine the differences in post-treatment scores across the treatment and WLC groups, tests of simple main effects for group within time were conducted. Typically, simple main effects are only examined in the presence of significant interactions. However, authors such as Clark-Carter (2004) state that useful information can still be gathered when simple main effects are tested in the absence of significant time by group interactions. This is particularly relevant in underpowered studies as the more focussed nature of simple main effects tests create more power to find differences between groups even when the overall interaction is not statistically significant. Examining simple main effects in this manner may lead to the discovery of interesting trends, which, according to Miller (1966), is particularly important with new areas of research as it may prompt future investigations. Furthermore, this practice is consistent with Keppel 's (1982) notion of suspending judgement regarding the acceptance or rejection of the null hypothesis when the results of omnibus testing are ambiguous. After consultation with a senior statistician, it was decided that in this investigation, such ambiguity arose because of the low power and consistently moderate to large effect sizes favouring the treatment over the WLC group. Further, simple main effects constitute a form of post-hoc testing for a significant interaction. The notion that multiple comparisons can only take place after a significant omnibus test is erroneous. Provided the tests control for inflated familywise error rate, which these were, they can be conducted instead of an omnibus test, and certainly do not require a significant overall F as a necessary

condition for their implementation (Hsu, 1996). For all these reasons, further investigation of the simple main effects was deemed appropriate.

As demonstrated in Table 10 and Figures 5 and 6, individuals in the treatment group were more improved than those in the WLC after the 9-week intervention on all of the variables. Medium to very large effect sizes ($d = 0.54$-1.26) were noted for all variables in the treatment group. In contrast, effect sizes for the WLC group ranged from small to medium ($d = 0.00$- 0.67).

Completers' Analysis

Two way linear mixed effects analyses were conducted using only participants who completed endpoint questionnaires to determine if differences existed between treatment and WLC groups. Table 11 presents the mean pre-and post-test scores on the primary (MDI and DASS-21) and secondary measures (QOLI-S, BADS-T and DAS-SF1).

As indicated in Table 11, the test for fixed effects indicated no significant differences between the treatment and WLC groups at post-test on all primary measures. Of the secondary measures, only a significant difference between the treatment and WLC at post-test was found for the QOLI-S. Effect sizes for all variables favoured the treatment over the WLC group. Strong between-group effect sizes were noted for the DASS-D ($d = 0.60$) and QOLI-S ($d = 0.69$).

Tests of simple main effects for group within time were conducted to further examine the differences in post-treatment scores across the treatment and WLC groups for program.completers. Table 12 presents the results of these analyses. Excluding the DAS-SF1, which was not significant and displayed medium effect sizes, all treatment group

Table 10

Simple Main Effects for Group within Time

Variable	Mean difference (pre-post)	*t*	*p*	Cohen's *d*	95% CI	
					LL	*UL*
MDI						
Treatment	12.41	5.10	.00	1.26	0.72	1.80
WLC	6.08	2.54	.03	0.64	0.05	1.22
DASS-T						
Treatment	20.73	3.88	.00	1.01	0.41	1.45
WLC	5.49	1.34	.42	0.23	-0.34	0.81
DASS-D						
Treatment	8.80	3.78	.00	0.95	0.43	1.47
WLC	2.32	0.89	.43	0.23	-0.35	0.81
DASS-A						
Treatment	5.83	2.73	.01	0.67	0.16	1.18
WLC	0.11	0.83	.97	0.01	-0.57	0.59
DASS-S						
Treatment	6.11	2.91	.01	0.70	0.19	1.21
WLC	3.39	2.12	.21	0.37	-0.21	0.95
QOLI-S						
Treatment	-4.32	2.91	.04	0.54	0.03	1.05
WLC	-0.19	-0.49	.93	0.03	-0.55	0.60
BADS-T						
Treatment	-20.65	4.68	.00	1.00	0.47	1.53
WLC	- 15.91	2.89	.03	0.67	0.07	1.27
DAS-SF1						
Treatment	0.49	2.66	.00	0.80	0.28	1.32
WLC	0.00	-0.11	1.00	0.00	-0.59	0.59

Note. CI = Confidence Interval; *LL* = lower limit; *UL* = upper limit. MDI = Major Depression Inventory (Bech et al., 2001); DASS-T = Depression Anxiety and Stress Scales 21 Total Score; DASS-D = DASS 21 Depression subscale; DASS-A = DASS 21 Anxiety subscale; DASS-S = DASS-21 Stress subscale; (Lovibond & Lovibond, 1993); QOLI-S = Quality of Life Inventory-Shortened (Frisch 1994); BADS-T = Behavioural Activation for Depression Scale (Kanter et al., 2007); DAS-SF1 = Dysfunctional Attitudes Scale Short Form 1(Beevers et al., 2007).
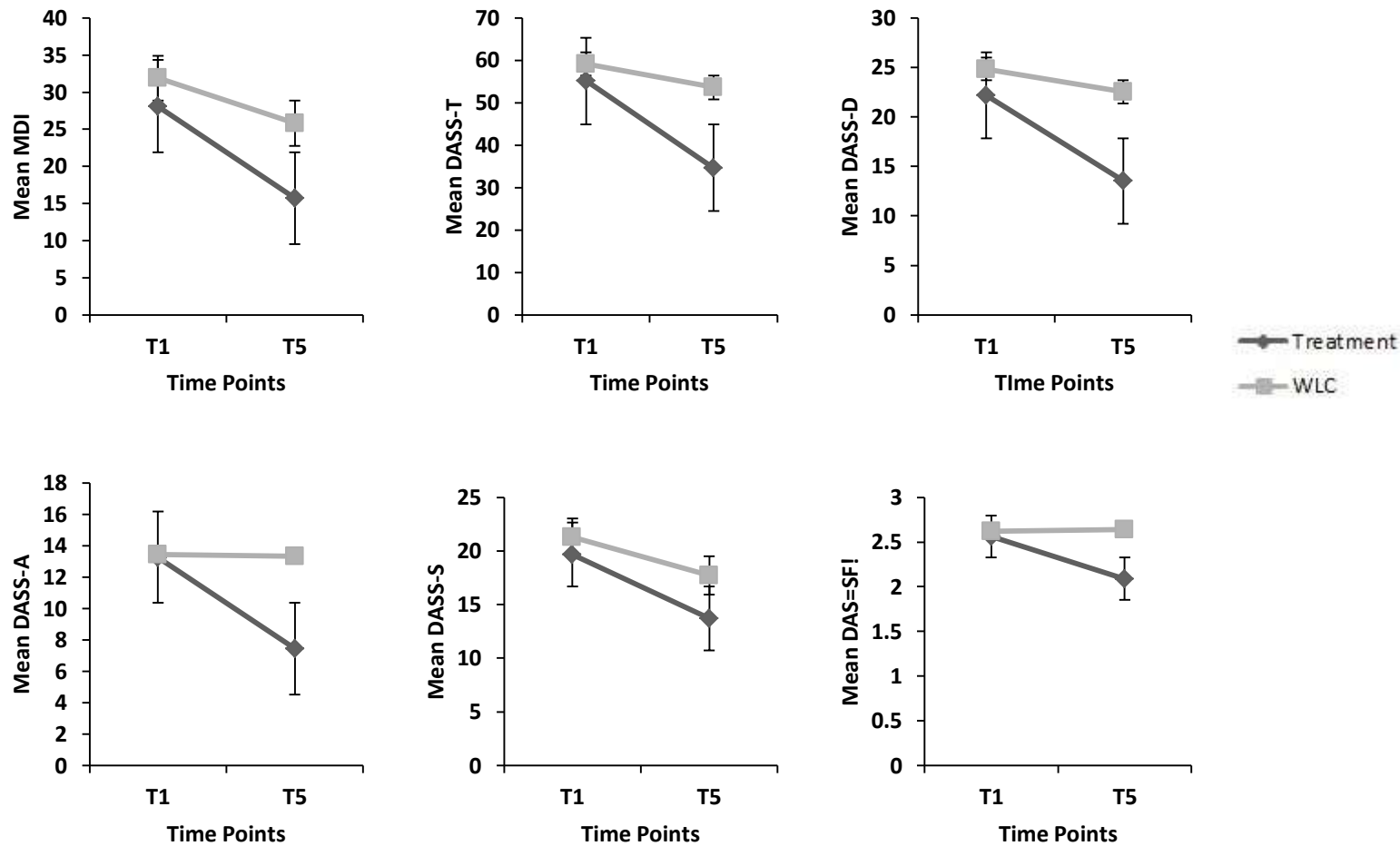
Figure 5. Simple main effects for group within time for outcome measures whereby decreased scores demonstrates improvement. DAS-SF1 = Dysfunctional Attitudes Scale- Short Form 1 (Beevers et al., 2007); DASS-A = Depression Anxiety Stress Scale 21 Anxiety Subscale (Lovibond & Lovibond, 1993); DASS-D = Depression Anxiety Stress Scale 21 Depression Subscale (Lovibond & Lovibond, 1993); DASS-S = Depression Anxiety Stress Scale 21 Anxiety Subscale (Lovibond & Lovibond, 1993); DASS-T = Depression Anxiety Stress Scale 21 Total (Lovibond & Lovibond, 1993); MDI = Major Depression Inventory (Bech, 1997).
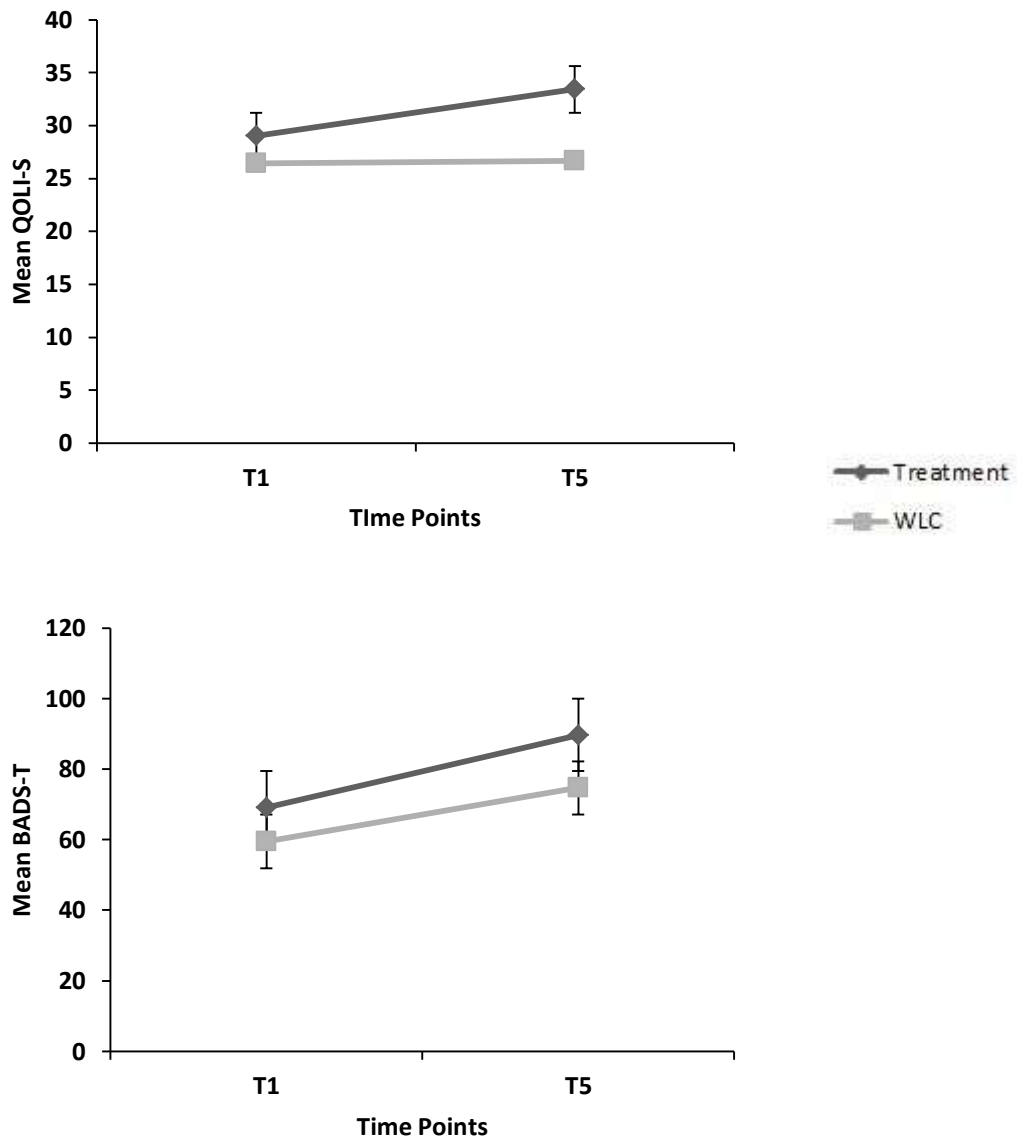
Figure 6. Simple main effects for group within time for outcome measures whereby increased scores demonstrates improvement. BADS-T =Behavioural Activation for Depression Scale(Kanter et al., 2007); QOLI-S= = Quality of Life Inventory Shortened (Frish, 1994).

Table 11

Outcome Measure Comparison between Completers in the Treatment and WLC Groups Across Time

Variable	Treatment (*n* = 21)		WLC (*n* =15)		*F*	*p*	*d*	95% CI	
	M	*SD*	*M*	*SD*				*LL*	*UL*
MDI					0.20	.66	0.07	-0.93	1.06
T1	23,48	10.08	31.93	8.57					
T5	15.71	9.59	25.80	11.91					
DASS-T					0.44	.51	0.31	-0.65	1.28
T1	48.95	22.24	62.60	28.02					
T5	34.67	23.43	53.60	25.21					
DASS-D					1.54	.22	0.60	-0.38	1.56
T1	20.19	8.22	24.53	9.90					
T5	13.52	9.76	22.53	10.91					
DASS-A					0.08	.78	0.16	-0.79	1.11
T1	11.33	9.64	16.40	12.59					
T5	7.43	8.30	13.33	9.03					
DASS-S					0.03	.87	0.06	-0.90	1.02
T1	17.43	8.25	21.87	10.46					
T5	13.71	8.77	17.73	8.48					
QOLI-S					5.43	.03	0.69	-0.27	1.64
T1	29.48	7.92	28.20	7.07					
T5	33.43	7.49	26.67	7.97					
BADS-T					0.37	.55	0.32	-0.73	1.36
T1	73.29	20.97	63.67	23.62					
T5	89.67	19.79	74.67	23.87					
DAS-SF1					1.30	.26	0.49	-0.53	1.50
T1	2.28	0.56	2.51	0.76					
T5	2.09	0.51	2.64	0.58					

Note. T1= Baseline; T5= post-teatment; *d* = Cohen's *d;* CI = Confidence Interval; *LL* = lower limit; *UL* = upper limit. MDI = Major Depression Inventory (Bech et al., 2001); DASS-T = Depression Anxiety and Stress Scales 21 Total Score; DASS-D = DASS 21 Depression subscale; DASS-A = DASS 21 Anxiety subscale; DASS-S = DASS-21 Stress subscale; (Lovibond & Lovibond, 1993); QOLI-S = Quality of Life Inventory Shortened (Frish, 1994); BADS-T = Behavioural Activation for Depression Scale (Kanter et al., 2007); DAS-SF1 = Dysfunctional Attitudes Scale Short Form 1(Beevers et al., 2007).

variables demonstrated significant change with medium to large effect sizes (0.50-0.77). In

contrast, only the MDI, DASS-S and BADS-T were significant in the WLC. The MDI was

the only variable to demonstrate a large effect sizes in the predicted direction. Effect sizes for the remaining variables ranged from small to medium (0.19 – 0.45).

Clinical significance. Post-treatment scores for program completers were analysed for clinical significance. Table 13 summarises these analyses. As demonstrated by this table, a greater number of treatment group participants obtained clinically significant improvement across all variables when compared with the WLC. Fisher's Exact Test revealed significant differences between the two groups on the DASS-T and the DASS-D. Moderate to strong associations (.21 - .38) were found for the MDI, DASS-T, DASS-D, DASS-A and DASF-SF1.

Follow up. Linear mixed effects analyses using time as the fixed factor identified significant changes in each outcome measure at six-month follow-up. As summarised in Table 14, there was a significant main effect of time for all outcome measures except the DASS-A with effect sizes ranging from small to medium (0.22-0.47). As indicated in Table 15, pairwise comparisons demonstrated significant differences from pre-treatment to post-treatment on the MDI, DASS-T, DASS-D and BADS-T with effect sizes ranging from medium to large. No significant differences were found from post-treatment to follow-up on any of the outcome measures and all associated effect sizes were small. Significant differences from pre-treatment to follow-up were displayed for the MDI, DASS-T and DASF-SF1. Medium effect sizes occurred for all outcome measures except the DASS-A and DASF-SF1 whose effect sizes were small.

Table 12

Simple Main Effects For Group within Time: Completer's Analysis

Variable	Mean difference (pre-post)	t	p	Cohen's d	95% CI LL	UL
MDI						
Treatment	7.77	3.30	.00	0.77	0.15	1.40
WLC	6.13	2.20	.01	0.57	-0.16	1.31
DASS-T						
Treatment	14.28	2.79	.00	0.61	-0.01	1.23
WLC	8.96	1.48	.18	0.33	-0.39	1.05
DASS-D						
Treatment	6.67	2.75	.01	0.73	0.10	1.35
WLC	2.03	0.70	.38	0.19	-0.53	0.91
DASS-A						
Treatment	3.90	2.00	.03	0.43	-0.19	1.04
WLC	3.07	1.33	.40	0.27	-0.45	0.99
DASS-S						
Treatment	3.72	2.22	.02	0.43	-0.18	1.04
WLC	4.14	2.08	.04	0.42	-0.30	1.15
QOLI-S						
Treatment	-3.95	-2.6	.01	0.50	-0.11	1.12
WLC	1.53	0.85	.63	-0.2	-0.52	0.92
BADS-T						
Treatment	-16.39	-4.06	.00	0.79	0.16	1.42
WLC	-11.00	-2.36	.01	0.45	-0.32	1.22
DAS-SF1						
Treatment	0.19	1.48	.26	0.35	-0.27	0.97
WLC	-0.13	-2.95	.62	-0.19	-0.57	0.95

Note. CI = Confidence Interval; LL = lower limit; UL = upper limit. MDI = Major Depression Inventory (Bech et al., 2001); DASS-T = Depression Anxiety and Stress Scales 21 Total Score; DASS-D = DASS 21 Depression subscale; DASS-A = DASS 21 Anxiety subscale; DASS-S = DASS-21 Stress subscale; (Lovibond & Lovibond, 1993); QOLI-S = Quality of Life Inventory-Shortened (Frisch 1994); BADS-T = Behavioural Activation for Depression Scale (Kanter et al., 2007); DAS-SF1 = Dysfunctional Attitudes Scale Short Form 1(Beevers et al., 2007).

Table 13

Proportion of Participants Obtaining Clinically Significant Improvement at Post-Treatment

Measures	Treatment (*N* = 21)		WLC (*N* = 15)		*p*	Ψ
	n[*]	*%*	*n*[*]	*%*		
MDI	10	47.6	3	20.3	.16	.28
DASS-T	6	28.6	0	0.0	.03	.38
DASS-D	17	81.8	7	46.7	.04	.36
DASS-A	19	19.5	10	66.7	.09	.30
DASS-S	17	81.0	13	86.7	.51	.08
QOLI-S	3	14.3	1	6.7	.44	.12
BADS-T	13	61.9	7	46.7	.29	.15
DAS-SF1	2	9.5	0	0.0	.33	.21

Note. *n*[*] = Number of individuals obtaining clinical significance. WLC = wait-list control; MDI = Major Depression Inventory (Bech et al., 2001); DASS-T = Depression Anxiety and Stress Scales 21 Total Score; DASS-D = DASS 21 Depression subscale; DASS-A = DASS 21 Anxiety subscale; DASS-S = DASS-21 Stress subscale; (Lovibond & Lovibond, 1993); QOLI-S = Quality of Life Inventory-Shortened (Frisch 1994); BADS-T = Behavioural Activation for Depression Scale (Kanter et al., 2007); DAS-SF1 = Dysfunctional Attitudes Scale Short Form 1(Beevers et al., 2007).

Table 14

Linear Mixed Effects Analyses for Treatment Program Completers At Six-Month Follow-Up

Measure	*F*	*p*	*Cohen's d*	95% CI	
				LL	*UL*
MDI	3.97	.001	0.41	0.04	0.58
DASS-T	2.90	.008	0.32	0.02	0.47
DASS-D	2.88	.008	0.30	0.02	0.10
DASS-A	1.89	.078	0.22	0.02	0.06
DASS-S	2.27	.034	0.26	0.02	0.08
QOLI-S	4.42	.001	0.47	0.06	0.20
BADS-T	3.73	.004	0.39	0.04	0.16
DAS-SF1	4.01	.003	0.43	0.04	0.18

Note. CI = Confidence Interval; *LL* = lower limit; *UL* = upper limit. MDI = Major Depression Inventory (Bech et al., 2001); DASS-T = Depression Anxiety and Stress Scales 21 Total Score; DASS-D = DASS 21 Depression subscale; DASS-A = DASS 21 Anxiety subscale; DASS-S = DASS-21 Stress subscale; (Lovibond & Lovibond, 1993); QOLI-S = Quality of Life Inventory-Shortened (Frisch 1994); BADS-T = Behavioural Activation for Depression Scale (Kanter et al., 2007); DAS-SF1 = Dysfunctional Attitudes Scale Short Form 1(Beevers et al., 2007).

Table 15

Pre-Treatment, Post-Treatment and Six-Month Follow Up Pairwise Comparisons

Measure	Pre-treatment (T1) to Post-treatment (T5)		Post-treatment (T5) to Follow Up (FU3)		Pre-treatment (T1) to Follow-up (FU3)		Cohen's d		
	t	*p*	t	*p*	t	*p*	T1-T5	T5-FU3	T1-FU3
MDI	4.31	.00	-0.73	1.00	3.55	.02	0.82	-0.14	0.68
DASS-T	3.53	.02	-0.26	1.00	3.216	.04	0.67	-0.05	0.62
DASS-D	3.27	.04	-0.53	1.00	2.72	.21	0.62	-0.1	0.52
DASS-A	3.12	.07	-0.85	1.00	2.23	.77	0.60	-0.16	0.43
DASS-S	2.40	.51	0.67	1.00	3.10	.07	0.46	0.13	0.59
QOLI-S	3.00	.05	0.23	1.00	-2.75	.11	0.69	0.05	0.63
BADS-T	3.23	.03	0.33	1.00	-2.88	.08	0.74	0.07	0.66
DAS-SF1	2.20	.48	1.06	1.00	0.33	.02	0.51	0.25	0.07

Note. MDI = Major Depression Inventory (Bech et al., 2001); DASS-T = Depression Anxiety and Stress Scales 21 Total Score; DASS-D = DASS 21 Depression subscale; DASS-A = DASS 21 Anxiety subscale; DASS-S = DASS-21 Stress subscale; (Lovibond & Lovibond, 1993); QOLI-S = Quality of Life Inventory-Shortened (Frisch 1994); BADS-T = Behavioural Activation for Depression Scale (Kanter et al., 2007); DAS-SF1 = Dysfunctional Attitudes Scale Short Form 1(Beevers et al., 2007).

Completer Characteristics

To determine whether there were differences between those who did and did not complete MoodGroup, treatment group participants were divided into one of three groups: those assigned to the treatment group but who never commenced ($n = 19$), those who started a MoodGroup but did not complete it ($n = 14$) and those who completed a MoodGroup ($n = 24$).

The pre-treatment variables for these three groups were analysed for significant differences using ANOVAs and Fisher's Exact Test. An analysis of the demographic variables revealed no significant differences between these groups on age, gender, education, or employment status.

The internet behaviour of the three groups was similar, with no significant differences on number of years of internet use; internet confidence level or hours per day spent using the internet.

The three groups did not differ significantly in their type of concurrent treatment and no significant differences existed between these groups on any of the pre-treatment measures except the MDI. A significant difference between the three groups existed on their pre-treatment MDI scores, $F (2, 54) = 4.37$, $p = .02$, $\eta^2 = .14$. Post hoc comparisons using the Tukey HSD test indicated that the mean MDI score ($M = 32.84$, $SD = 7.31$) for those who did not commence a MoodGroup was significantly higher than program completers ($M = 24.42$, $SD = 9.88$). However, those who commenced but did not complete a MoodGroup ($M = 28.00$, $SD = 10.56$) did not differ significantly from the other two groups. Table 16 summarises these comparisons.

Table 16

Demographic, Internet-Use and Pre-Treatment Comparisons between Non-Commencers, Non-Completers and Completers

Variable	Non-commencers (*n* = 19)	Non-completers (*n* =14)	Completers (*n* =24)	*F*	*p*	η^2	*V*
Sex				-	.86 [a]	-	.08
Female	14 (73.7%)	10 (71.4%)	5(20.8%)				
Male	5 (26.3%)	4 (28.6%)	19 (79.2%)				
Age				1.39	.26 [b]	.05	-
M (SD)	12.89 (4.01)	33.57(13.45)	37.46(12.02)				
Range	21-57	20-68	19-64				
Education				-	.36 [a]	-	.26
High school	3 (18.8%)	5 (41.7%)	6 (26.1%)				
Certificate qualification	2 (12.5%)	0 (0.0%)	2 (8.7%)				
University degree	6 (37.5%)	2 (16.7%)	11 (47.8%)				
Postgraduate qualification	5 (31.3%)	5 (41.7%)	4 (17.4%)				
Employment				-	.92 [a]	-	.14
Unemployed	6 (31.6%)	4 (28.6%)	6 (25.0%)				
Student	2 (10.5%)	4 (28.6%)	5 (10.8%)				
Casual or part- time	6 (31.6%)	3 (21.4%)	6 (25.0%)				
Full-time	5 (26.3%)	3 (21.4%)	7 (29.2%)				
Internet confidence				-	.10 [a]	-	.23
Somewhat confident	0 (0.0%)	0 (0.0%)	2 (8.3%)				
Confident	3 (15.8%)	0 (0.0%)	6 (25.0%)				
Very confident	16 (84.2%)	14 (100.0%)	16 (66.7%)				

	Non-commencers ($n = 19$)	Non-completers ($n = 14$)	Completers ($n = 24$)	F	p	η^2	V
Variable							
Internet years				0.56	.58[b]	.02	-
M (SD)	12.89 (4.01)	14.21(5.51)	12.75 (3.78)				
Range	7-21	8-30	5-20				
Hours per day of internet use				-	.56[a]	-	.24
0-1	2 (10.5%)	0 (0.0%)	1 (4.2%)				
1-5	12 (62.2%)	9 (64.3%)	13 (54.2%)				
5-10	5 (26.3%)	5 (35.7%)	7 (29.2%)				
10-15	0 (0.0%)	0 (0.0%)	3 (12.5%)				
Current treatment				-	.79[a]	-	.21
Nothing	5 (26.3%)	3 (21.4%)	7 (29.2%)				
Medication only	7 (36.8%)	2 (14.3%)	7 (29.2%)				
Psychotherapy only	2 (10.5%)	2 (14.3%)	3 (12.5%)				
Combination therapy	5 (26.3%)	7 (50.0%)	6 (25.0%)				
Other	0 (0.0%)	0 (0.%)	1 (4.2%)				
MDI [*M (SD)*]	32.84 (7.31)	28.00 (10.56)	24.42 (9.88)	4.37	.02[b]	.14	-
DASS-T [*M (SD)*]	60.53 (18.87)	56.43(22.27)	50.75 (22.76)	1.13	.33[b]	.04	-
QOLI-S [*M (SD)*]	31.63 (8.90)	26.21 (7.12)	28.79 (7.63)	1.90	.16[b]	.07	-
BADS-T [*M (SD)*]	69.00 (26.49)	60.57 (18.24)	73.96 (20.49)	1.66	.20[b]	.06	-
DAS-SF1 [*M (SD)*]	2.73 (0.59)	2.77 (0.68)	2.36 (0.59)	2.54	.090[b]	.09	-

Note. [a] From Fisher's Exact Test. [b] From one-way ANOVA. MDI = Major Depression Inventory (Bech et al., 2001); DASS-T = Depression Anxiety and Stress Scales 21 Total Score (Lovibond & Lovibond, 1993); QOLI-S = Quality of Life Inventory-Shortened (Frisch 1994); BADS-T = Behavioural Activation for Depression Scale (Kanter et al., 2007); DAS-SF1 = Dysfunctional Attitudes Scale Short Form 1(Beevers et al., 2007).

Discussion

This investigation examined the efficacy of MoodGroup. It was hypothesised that, compared with wait-list controls, MoodGroup participants would experience reductions on all primary measures of depression and psychological distress and on secondary measures of maladaptive thoughts. It was further hypothesised that MoodGroup participants would experience increases in their QoL and behavioural activation.

This investigation additionally examined the extent to which treatment group gains were maintained over time. It was hypothesised that, compared with pre-treatment, those in the treatment group would demonstrate reductions in symptom outcomes and improvements in QoL at six month follow-up. In the following section, the findings from the hypotheses are discussed and results interpreted. The limitations are then presented in conjunction with implications for further research in this area.

Reductions in Symptoms of Depression and Psychological Distress

Although significant reductions in symptoms of depression and psychological distress in the treatment compared to the WLC after completion of the MoodGroup program were not found, group within time analyses revealed that symptoms of depression and psychological distress were more improved for the treatment group than the WLC. Specifically, the treatment group demonstrated significant pre-post reductions on the MDI, DASS-T, DASS-A and DASS-S with effect sizes ranging from medium to very large. In comparison, the WLC group only demonstrated significant pre-post reductions on the MDI, displaying effect sizes ranging only from small to moderate. Furthermore, between-group effect sizes favoured the treatment over the WLC group for all variables.

Similar differences between the treatment and WLC groups were demonstrated for those who completed the program. The 21 individuals who completed the MoodGroup intervention displayed significant pre-post reductions on the MDI and all aspects of the DASS-21 with accompanying medium to large effect sizes. However, the 15 individuals who completed the WLC displayed significant pre-post reductions on only the MDI and DASS-S. Effect sizes for the measures of depression and psychological distress ranged only from small to medium. Again, between-group effect sizes favoured the treatment over the WLC group for all variables. Furthermore, significantly more participants in the treatment group achieved clinically significant improvement on the overall measure of psychological distress and its sub-category of depression, than those in the WLC.

The paucity of studies exploring online group-based therapies limits the ability of these findings to be interpreted in light of similar research. However, the results can be compared with those reported in the Grip op Je Dip intervention, an online gCBT intervention designed to treat adolescents with depression. As reported by van der Zanden and colleagues (2012), in comparison to the control group, the treatment group showed significantly greater improvement in depressive symptoms and anxiety with very large effect sizes of 0.94 [95%CI 0.64-1.23] for depression and moderate effect sizes 0.49 [95% CI 0.24-0.75]. In the MoodGroup intervention, the between-effect sizes of 0.55 [95%CI 0.05- 1.15] for depression and 0.65 [95% CI 0.1-1.20] for anxiety favoured the treatment group. Although both interventions produced meaningful treatment outcomes, Grip op Je Dip appears more effective than MoodGroup in reducing depressive symptoms. There were a number of key differences between these interventions. Grip op Je Dip was targeted to adolescents and young adults. This population is characterised by high rates of computer literacy. As such, Grip op Je Dip participants may have more easily adapted to the online therapeutic environment than the typically older MoodGroup participants. The Grip op Je

Dip groups were more homogenous than the MoodGroups and the Grip op Je Dip participants experienced less severe depressive symptoms than their MoodGroup counterparts. Furthermore, the Grip op Je Dip intervention employed a dual-facilitator model. These are important differences and as such, the significance of these factors will be explored in greater depth later in the chapter.

Reductions in Maladaptive Thoughts and Improvements in QoL and Behavioural Activation

The hypothesis that the treatment group would demonstrate reductions in maladaptive thoughts and improvements in behavioural activation was not supported, as significant differences across time were not found between the treatment and WLC groups. However, group within time analyses for both secondary outcome measures revealed greater improvement in the treatment compared with the WLC. Specifically, the treatment group demonstrated significant changes in the desired direction on both the DAS-SF1 and BADS-T with very large effect sizes whilst the WLC only demonstrated significant improvements in behavioural activation. The effect sizes for the measures of maladaptive thoughts and behavioural activation were small to large respectively. Additionally, between-group effect sizes for these variables favoured the treatment over the WLC groups.

An analysis of program completers demonstrated similar trends. The 21 individuals who completed the MoodGroup intervention displayed medium and large effect sizes respectively for the BADS-T and DASF-SF1 and significant improvements in behavioural activation. In contrast, the 15 WLC completers displayed small and medium effect sizes respectively for the BADS-T and DAS-SF1 with no significant changes in the desired direction on either outcome measure. Furthermore, when compared with the WLC, the treatment group displayed greater numbers of participants achieving clinical significance on

these outcome measures. Once again, between-group effect sizes favoured the treatment over the WLC group for these variables.

The hypothesis regarding QoL improvements was supported; a significant difference between the treatment and control groups was found on this outcome measure. At the program's completion, those in the treatment group experienced significant improvements to their QoL whilst those in the WLC did not.

The promising results from the effect size and clinical significance analyses suggest that those in the treatment group obtained meaningful improvement compared with those in the WLC. However, statistically significant improvement was only reported for QoL. There are a number of reasons for this. Firstly, the small sample size and high rate of attrition meant the research was underpowered. This increased the risk of Type II error and decreased the chances of detecting differences if they occurred (Biau & Kernéis, 2008).

A second reason could lie in the heterogeneous nature of the recruited sample whose severity of depression at pre-treatment ranged from mild to severe. For the entire sample, the mean baseline MDI (M =29.87, SD = 9.43) and DASS-D (M = 23.50, SD = 9.24) scores were reflective of severe depression (Lovibond & Lovibond, 1993; Olsen et al., 2003), indicating that the average participant was more than mildly to moderately depressed. As evidence suggests that group therapy positively impacts those with severe depression (Rush & Watkins, 1981), these individuals were included in the research. However, it has traditionally been found to be more effective for those with mild to moderate depression (Cuijpers, van Straten, Andersson, et al., 2008). Similarly, individual online interventions for depression typically target mild to moderate depression (Andersson et al., 2004). The finding that those who completed a MoodGroup had a significantly lower MDI score at pre-treatment than those who failed to commence a group indicates that this type of treatment modality may be

neither of great benefit nor appeal to those with severe depression, and their inclusion may therefore have weakened its results.

Similarly, screening for type of depression or co-morbid diagnoses did not occur. Although the CBT-based principles utilised in MoodGroup are useful in treating depression regardless of its cause, the groups may have been more effective had they been adapted to target a specific aetiology. For example, a mother participating in a MoodGroup who was experiencing post-natal depression would likely benefit from different course content and strategies to a young man in the depressive phase of his bipolar disorder. Furthermore, as the comorbidities of participants were unknown, it was not possible to adapt the MoodGroups accordingly.

The format and structure of the MoodGroups could further account for the non-significant results. In traditional face-to-face CBT groups, course material is worked through during the session. Whilst participants are expected to complete homework activities, they are not presented with new course material prior to their group. As discussed in Chapter 3, MoodGroup participants were provided with pre-readings a week in advance of their session and were expected to independently work through this material in addition to completing homework activities. This is a novel treatment approach and as such, no published literature exists to support its efficacy. This approach was practical and may have provided participants with ample time to consolidate their knowledge and skills. However, it is important to remember that people with depression typically experience motivational and cognitive deficits, which may have affected their ability to benefit from course material requiring high amounts of self-direction and independent study.

Although symptom reduction is a crucial part of assessing the effectiveness of an intervention, it should not be the sole focus. Depression can be a pervasive and disabling

condition affecting multiple areas of functioning. Thus it is unsurprising that those affected by the condition report QoL ratings that are comparable to those with chronic physical illness such as hypertension, diabetes or arthritis (Hays, Wells, Sherbourne, Rogers, & Spritzer, 1995). QoL includes areas such as role fulfilment, personal happiness and work and social functioning. Improvements in these areas may occur independently of symptom reduction and can positively impact the experience of depression (Meltzer-Brody & Davidson, 2000). Thus, the success of an intervention to treat depression should not be judged solely on its ability to reduce symptoms but also to improve the QoL in its recipients.

The results from this investigation indicate that QoL is improved by participation in a MoodGroup. These improvements are consistent with the results of an exploratory study conducted by Lenz and Demal (2000), examining the impact of a 6 to 8 week CBT intervention on the QoL of inpatients with depression. Results indicated that 83.80% of participants reported improvement at follow-up. The authors noted that the social skills and self-assertiveness training, cognitive restructuring and behavioural activation included as part of the treatment package likely contributed to the demonstrated QoL improvements. The MoodGroup intervention included all of these aspects. Whilst not specifically targeting QoL, it provided participants with the skills to problem solve, set realistic goals, manage stress and think more adaptively. Furthermore, it explicitly focussed on improving social functioning outside of the group whilst supporting a sense of social connectedness within it. According to Blake-Mortimer, Gore-Felton, Kimerling, Turner-Cobb, and Spiegel (1999) these are important characteristics of therapeutic groups that enhance QoL.

The current investigation demonstrates that an online group-based intervention can create meaningful improvements in the lives of its recipients. This important finding points to the potential of this treatment modality to support meaningful change. This finding also contributes to the body of research surrounding the impact of CBT on QoL in individuals

with depression. Whist the relationship between pharmacotherapy for depression and QoL has been well-researched with a number of studies demonstrating an improvement in QoL both during and after a course of anti-depressants (Papakostas et al., 2004), the relationship between QoL outcomes and psychotherapy for depression is under-researched (Lenz & Demal, 2000). The finding that MoodGroup participants experienced significantly improved QoL over time when compared with wait-list controls makes an important contribution to this research area.

Maintenance of Treatment Gains over Time

The hypothesis that those in the treatment group would demonstrate reductions in their symptoms and improvements in their QoL at the six-month follow up was supported for all outcome variables except the DASS-A. These results are consistent with previous follow-up research of online CBT-based self-help (Mackinnon, Griffiths, & Christensen, 2008) and therapist-assisted (Andersson et al., 2004; Griffiths et al., 2010; Ruwaard et al., 2009) interventions along with face-to-face group therapy (Beutler et al., 1987; Dugas et al., 2003), which all demonstrated the stability of the treatment effects in the longer term. These results suggest that online group-based treatments provide an additional means to deliver CBT interventions successfully for depression that foster lasting change. Furthermore, they indicate that the MoodGroup intervention creates improvements in its participants that are maintained over time.

The non-significant reductions in DASS-A scores between pre-treatment and follow-up are contrary to those of Paterson (2010) who reported significant reductions in anxiety from pre-treatment to 6 month follow-up in participants who undertook The Core Program, the offline version of MoodGroup. However, given that MoodGroup does not specifically target anxiety it is perhaps unsurprising that the improvements experienced by its participants

in their anxiety were not maintained over time. The MoodGroup program includes elements

of anxiety-based treatments such as identifying and managing cognitive distortions, worry

exposure and confronting social avoidance. These elements will likely assist participants to

manage facets of their anxiety. However, it is likely that the program provides insufficient

guidance and assistance with managing anxiety-specific complaints such as fear reduction to

foster improvement in the long term.

Attrition

There was a high rate of attrition in this investigation. Of the 57 individuals assigned

to the treatment group, 19 (33%) did not commence.   A further 14 (24.56%) commenced but

did not complete a MoodGroup.   Although high levels of attrition are undesirable, drop-out

is also commonly observed in face-to-face interventions. For example, the National Institute

of Health Treatment of Depression Program reported an average attrition rate of 32% for

clients accessing CBT either in individual or group-based settings (Elkin, 1994; Elkin et al.,

1989). Furthermore, an analysis of face-to-face gCBT interventions for depression reveals

that rates of attrition vary widely from 2% (Ravindran et al., 1999) to 47.30% (Oei & Dingle,

2008). The way in which attrition is calculated does however vary between studies. Some

studies include non-commencers in their overall attrition rates whilst others only include

those who commenced but did not complete the intervention. The studies cited above did not

explicitly state how their attrition rates were calculated. It is therefore difficult to make

comparisons between MoodGroup's attrition rate and similar face-to-face interventions.

These attrition rates are comparable to those seen in online individual therapist-

assisted interventions for depression. For example, Ruwaard, Lange, Schrieken and

Emmelkamp (2011) reported treatment drop-out rates of 29% in their online clinic. A meta-

analysis conducted by Spek and colleagues (2007) of RCTs providing iCBT to treat affective

disorders revealed attrition rates between 3-27% for the studies including therapist assistance. Thus it appears that the rate of attrition for those who commenced but did not complete the MoodGroup intervention was similar to those typically observed in face-to-face gCBT and individual iCBT interventions for depression.

There is insufficient research into online group therapy to determine typical rates of attrition. However, in the Grip Op Ye Dip intervention that provided gCBT to adolescents and young adults in an online chat room, only 20% of participants completed all six of the online sessions. This suggests a trend towards high rates of attrition in online group therapeutic settings. However, further research is required to substantiate this assertion.

The reasons for the higher than desired rate of attrition in the present research are unclear; however multiple possible explanations exist. MoodGroup completers had significantly lower MDI scores at pre-treatment compared with those who did not commence the intervention. This suggests that depression severity is an important factor to consider when determining the appropriateness of candidates for an online group-based intervention. This finding is consistent with research indicating that those with mild to moderate levels of depression are most likely to benefit from individual online (Andersson et al., 2004) and face-to-face group-based CBT interventions (Cuijpers et al., 2008).

Another factor which may account for the high attrition rate is the setting in which MoodGroup is run. Accessing group therapy online affords many benefits such as convenience and anonymity but the lack of direct, face-to-face contact may have made dropping out of the program easier for participants. In traditional group-based settings, non-attenders are typically followed up with a phone call from the therapist who is personally known to the participant (Lash, Petersen, O'Connor & Lehmann, 2001). MoodGroup participants who did not attend a session received an email from a faceless facilitator. In

some instances, this provided sufficient encouragement for the participant's return to the group. However, the MoodGroup facilitators commonly reported that their emails went unanswered. The lack of face-to-face contact between participants may also have made it easier for them to remove themselves from the group.

The finding that there were no significant differences in demographic characteristics between MoodGoup completers and non-completers is consistent with the findings from Oei and Kazmierczak (1997) who investigated the factors associated with attrition in a face-to-face gCBT intervention for depression. These authors concluded that socio-demographic variables such as age and income are poor predictors of which participants are likely to drop out of treatment prematurely. These authors did however find that perceived levels of therapist and participant engagement differed significantly between those who did and did not complete the intervention. Those who completed the intervention were found to participate more freely and be less withdrawn than those who dropped out. An analysis of levels of participation was beyond the scope of the present research. However, in the virtual environment of online group therapy where non-verbal cues are lacking and involvement is determined through written communication and adaption to the technology it seems possible that those who were able to master the technology and contribute comfortably would be more likely to continue with the intervention than those unable to do so. Indeed, all of the participants who applied for the MoodGroup intervention indicated that they were at least 'somewhat confident' in their ability to use the internet. The comfort levels of the participants to contribute within virtual therapy room was however unknown. Further studies replicating the work of Oei and Kazmierczak in online group therapeutic environments are needed to substantiate this theory.

A further factor which could be associated with the high rate of attrition in the present research is participant improvement. According to Pekarik (1983b), individuals who achieve

meaningful improvement in their psychological symptoms are likely to cease therapy prematurely, citing "no further need for services" as their discontinuation reason. The majority of participants withdrew at or after the fifth week of the intervention. This is the amount of time typically required to obtain significant reductions in depressive symptoms in individual CBT-based online interventions (Christensen et al., 2004; Karp, 2008). Given that there were no noticeable differences in treatment outcomes for the treatment group as a whole and MoodGroup completers, it is possible that participants withdrew after experiencing some improvement. Further quantitative analysis is however required to determine whether participant improvement contributed towards attrition.

Although participants were followed-up via e-mail if they stopped attending group sessions they were not asked to complete exit-interviews examining their reasons for leaving. Reasons for exiting the program were collected informally. Participants' motivations for leaving were varied. The most frequently cited reasons included technical difficulties, being unprepared for the amount of time the intervention required, physical illness and privacy concerns. None of the responses reflected dissatisfaction with the intervention or a lack of progress, which are two factors commonly associated with dropout (Acosta, 1980). However, participants may have provided socially desirable responses in favour of directly expressing unfavourable views of the intervention (Pekarik, 1983b). An exit-interview conducted anonymously via an online survey would have been a useful tool for exploring the participants' reasons for leaving prematurely. Gaining these insights would provide invaluable information regarding who is best suited to an online group therapy treatment for depression. It would also help to inform changes and modifications to future MoodGroup interventions. It is therefore recommended that future research formally examine the reasons for prematurely terminating online group therapy.

Inclusion of People at Risk of Suicide

A widespread belief about online interventions is that they are unable to manage individuals at risk of suicide (Fenichel et al., 2002). The presence of suicidal ideation is therefore commonly listed as an exclusion criterion in research trials investigating online therapies. The difficulty with this in relation to depression is that suicidality is often one of the presenting symptoms. In fact, approximately 46.90% of individuals experiencing thoughts of suicide present with a depressive disorder (Goldney, Wilson, et al., 2000). Excluding participants with suicidal ideation risks a sample not reflective of those in the general population with depression. The decision was therefore made to work with individuals at risk of suicide rather than automatically exclude them.

To the best of the author's knowledge, this is the first research project to include people with suicidal ideation in an online group therapeutic environment. Thus few resources were available to develop an online risk management plan; one was created using strategies adapted from face-to-face work. A comprehensive description of the MoodGroup risk management plan is outlined in Chapter 3 (pp. 113-118).

The thorough screening and active follow-up that was part of the MoodGroup risk management plan appeared to pay dividends, as MoodGroups were safely able to include individuals with suicidal ideation. During the screening process, 42 risk assessments were conducted via email or telephone. In nine cases, applicants were excluded as their risk of suicide was deemed too high to allow for safe inclusion into the research project. In accordance with the risk management plan, they were provided with referrals and resources to assist them to manage their suicidality and followed-up by the author a month later. Those remaining were accepted and 15 of these went on to participate in a MoodGroup. Over the course of the six MoodGroups only three risk situations presented themselves. All three were

minor and contained through consultation with the clinical supervisor and follow-up emails to the relevant participants. This demonstrates that with careful screening, ongoing monitoring, open communication and participant education individuals at risk of suicide can safely participate in online group therapy.

Limitations

This investigation presents a number of limitations affecting the generalisability of its results. Despite a vigorous recruitment campaign and careful monitoring of participants to maintain retention, the study's sample size was relatively small, and below the target of 160 determined by the a-priori power analysis. This resulted in the research being underpowered, which decreased the probability of finding significant results. Main effects may therefore have gone undetected, which limits the conclusions that can be drawn regarding MoodGroup's efficacy (Maxwell, 2004). The inclusion of effect sizes and confidence intervals assisted in ameliorating the impact of the investigation's lack of power. Nevertheless, the research findings would have been strengthened had a larger sample been recruited and maintained. Suggestions for improving the response and retention rate can be found in the 'Recommendations' section in Chapter 8 (pp. 327-329).

Contributing to the investigation's small sample size was the high rate of attrition. The overall attrition rate for the treatment group was 57%, with 24.56% of these participants commencing but not completing a MoodGroup. This elevated drop-out rate had both statistical and clinical implications. Statistically, mean estimates of variables have been shown to become increasingly biased as the rate of attrition rises (Gustavson, von Soest, Karevold, & Røysamb, 2012). Additionally, high rates of attrition can limit the generalisability of results if those who remained in the study differ to those who drop-out. For the most part, those who remained in the MoodGroup intervention did not differ

significantly in their demographic, pre-treatment and internet-use characteristics compared with those who dropped out. This strengthens the external validity of the observed results. Clinically, the high rate of non-completers is concerning for two reasons: firstly, it threatens the group stability and secondly, it may indicate that this type of intervention is unsuitable or unappealing to individuals with depression. However, the possibility exists that participants exited the group prematurely because they had obtained sufficient improvement in their symptoms to render further treatment unnecessary. Further research is therefore recommended to determine both the cause and impact of attrition in online group therapy interventions.

A further limitation relates to the randomisation process that was used. Whilst a pure randomisation process was planned, practical limitations prevented this. Consequently, 15 participants formed part of both the WLC and treatment groups. The experience of being transferred from the wait-list to treatment intervention may have influenced the results, thus threatening the research's internal validity. According to a meta-analysis conducted by Posternak and Miller (2001), individuals assigned to a wait-list control arm of an intervention study frequently experience a decline of between 10-15% in their depressive symptomatology. Possible reasons to explain this phenomenon include the instillation of hope, socially desirable responding and positive expectations. However, it should be remembered that these 15 individuals did not significantly differ from other treatment participants in terms of their demographic and internet-use characteristics and pre-treatment symptom profile. According to Bedi and colleagues (2000), when two groups do not demonstrate significant pre-test differences they can be combined and analysed as a single group. Similarities between those originally assigned to the treatment intervention and those transferred from the WLC to the treatment intervention aside, this deviation from the original randomisation protocol had a number of negative implications for this investigation. The

research could no longer be described as a randomised controlled trial and the threat to internal validity presented by this deviation limited the causal attributions drawn from the analyses. The results should therefore be interpreted with caution and the research replicated in a RCT using traditional randomisation procedures.

A fifth limitation of this investigation relates to the way in which a diagnosis of depression was established. As no structured clinical interviews were conducted, this investigation relied exclusively on participants' self-reporting of their depressive symptomatology. Those who scored above the cut-off score on the MDI were included without further assessment. Andersson and Cuijpers (2008) discuss the importance of not relying solely on self-report for online interventions as it becomes unclear whether the study's participants truly had a depressive disorder or subclinical levels of depression. According to these authors, accurate diagnosis is essential for determining an intervention's impact and the population for whom it is most suited. Clinical interviews are however time and resource-intensive and were therefore beyond the scope of this research project. Although structured clinical interviews were not used, the MDI was specifically chosen for its sound psychometric properties, high rates of sensitivity and specificity and validation for use on the internet. Thus it can be confidently asserted that the individuals included in this research experienced clinically significant symptoms of depression.

A further clinical limitation of this research was the use of a one-facilitator model with provisional psychologists. According to Wright (2003), in face-to-face group work dual-facilitator models are preferable as they foster and enhance the development of both individual and group processes. Additionally, dual-facilitation allows for interpersonal processes and skills to be role-modelled between two people of equal status and ensures that participants can be monitored at all times, even when divided into smaller groups. It is likely that these findings hold true for online group therapeutic work as well.

Conversations with facilitators revealed that at times they had difficulty keeping up with the steam of conversation and felt that, particularly in larger groups, they were not able to provide all group members with sufficient attention. Having two facilitators would assist with this. Furthermore, the efficacy of the groups would likely have been improved by the use of fully qualified psychologists with experience running face-to-face groups. All MoodGroup facilitators were provisional psychologists with limited experience running groups offline. Although well-trained and closely supervised, provisional psychologists are still considered to be novices in their field and therefore unlikely to provide the same insights, depth of analysis and knowledge typically offered by a more experienced therapist (Jones, 2008). In this research, financial constraints prevented the employment of qualified psychologists as facilitators. It should however be noted that research into both online and face-to-face interventions suggests that the experience of the therapist is not necessarily significantly associated with positive therapeutic outcomes (Blow, Sprenkle, & Davis, 2007; Titov et al., 2010). This supports the inclusion of provisional psychologists as MoodGroup facilitators. An ideal compromise addressing both of these facilitator-related limitations would be to employ a dual-facilitator model comprising both a qualified and provisional psychologist.

Summary and Conclusions

This investigation addressed the first research question posed in this thesis. It evaluated the efficacy of the MoodGroup intervention and determined if treatment effects were maintained over time. The findings revealed that QoL in individuals with depression was significantly improved through participation in this online group therapy program. Furthermore, although non-significant, medium to large intervention effects were demonstrated for all outcome variables for those in the treatment group, and all between-group effects favoured the treatment over the WLC group. Treatment gains were maintained

over time. Taken together, these findings demonstrate the potential for an online group-based intervention to reduce depressive symptoms in Australian adults. Additionally, this investigation demonstrated that individuals at risk of suicide can be safely included in online interventions using careful screening and ongoing risk management procedures. Further research is required to replicate these findings and address the limitations presented. However, these findings demonstrate that the MoodGroup intervention shows promise as a safe and effective treatment option for depressive disorders. The following chapter will address the second research question by examining the group processes present in MoodGroup.

Chapter 5: An Analysis of Group Climate Variables in an Online Therapeutic Setting

Chapter Overview

The efficacy of face-to-face group gCBT has been well-established in the literature and a solid theoretical framework underpinning group processes within this setting has been developed. However, little published research exists on group processes within an online therapeutic environment. It is unclear whether online group processes mimic those observed in face-to-face therapeutic groups, how group processes predict positive therapeutic change and what characterises effective online therapeutic groups. This investigation explores the development of group climate in an online group therapy format and investigates the relationship between group climate dimensions and therapeutic outcomes. It overviews the importance of group therapy in treating depression and outlines the processes and stages of group therapy that typically predict positive treatment outcomes. The research aims, namely to explore the development of group climate variables in the online MoodGroup intervention and to investigate their relationship to treatment outcomes are presented, followed by a description of the research methodology. An analysis of results is presented with an evaluation of the research findings. The limitations of this investigation and its implications for future research are then discussed. This chapter addresses the second research question in this thesis by comparing online and face-to-face group processes and analysing whether group process variables can predict therapeutic gains.

Background

Depression is a condition that necessitates the provision of accessible, affordable, and effective treatments. As Chapter 1 discussed, face-to-face gCBT is a well-established treatment modality meeting these criteria as it produces similarly effective treatment outcomes compared with individual CBT interventions in both the short and long-term

(Bright et al., 1999; McDermut, et al., 2001; Oei & Dingle, 2008; Teri & Lewinsohn, 1986; Tucker & Oei, 2007) across a range of populations (Comas-Díaz, 1981; Himelhoch et al., 2007; Steuer et al., 1984), demonstrates superior cost-effectiveness (Gould et al., 1997; Kashner et al., 1995; Tucker & Oei, 2007) and provides an opportunity to address the interpersonal processes that are typically compromised during a depressive episode (Yalom, 1995).

Group Climate

A number of specific and non-specific factors are implicated in the success of group therapy programs. According to MacKenzie (1981, 1983) and MacKenzie and Livesley (1983), group climate is an important predictor of the success of a group-based intervention. Group climate comprises three elements, namely engagement, conflict and avoidance. *Engagement* describes a positive working atmosphere within the group and is related to the concept of group cohesion or the basic bond that is present between group members. *Conflict* is related to interpersonal disruptions that occur between group members and distrust that presents itself within the group as a whole. *Avoidance* is defined as the reduced responsibility that group members assume for their own change process.

Perceptions of group climate by group members play an important role in influencing therapeutic outcomes. Kivlighan and Tarrant (2001) and MacKenzie (1983) investigated the relationship between group climate perceptions and therapeutic outcome. Their findings revealed that groups characterised by high engagement demonstrate high levels of cohesion, self-disclosure and attempts to understand the impact of their behaviour within the group. These factors are predictive of positive change. In contrast, groups that experience consistently high levels of conflict are likely to be characterised by friction, lack of trust, withdrawal and angry outbursts, which tends to impede the work conducted within the group

and minimise treatment success. Similarly, groups experiencing high levels of avoidance are less likely to display positive treatment outcomes as group members are unlikely to take responsibility for addressing interpersonal difficulties both within the group and in their lives in general (Kivlighan & Tarrant, 2001; MacKenzie,1983).

However, group climate is not static and changes over time. Studies examining the interplay between group climate elements have consistently demonstrated that group-based interventions produce favourable therapeutic outcomes when high levels of cohesion and low levels of avoidance are present from midway through the intervention. Additionally, positive outcomes are associated with a pattern of low-high-low levels of conflict respectively across the early, mid and late stages of therapy (Castonguay, Pincus, Agras, & Hines, 1998; Kivlighan & Lilly, 1997; MacKenzie, Dies, Coche, Rutan, & Stone, 1987; Phipps & Zastowny, 1988). Thus it appears that groups who are able to face and overcome the challenges presented to them when conflict appears and who are able to take responsibility for their change processes are more successful than groups unable to overcome these interpersonal difficulties.

Unlike psycho-dynamic and interpersonal group therapies, gCBT is a highly-structured form of psychotherapy tending to place more emphasis on skill acquisition than therapeutic relationships. gCBT interventions may therefore experience unique group process trends (Tasca, Balfour, Ritchie, & Bissada, 2006). The heavy focus on relationships in psychodynamic and interpersonal therapies means challenges to the therapeutic bond are constantly presented. As such, group engagement occurs in rupture and repair-sequences throughout treatment (Safran, Muran, Samstag, & Stevens, 2001). In contrast, Raue (1997) suggests that gCBT interventions are characterised by collaborative relationships throughout the treatment whereby group members are increasingly encouraged to take responsibility for setting their own treatment agendas. Consequently, Tasca and colleagues (2006) proposed a

model of optimal group development specific to gCBT interventions whereby engagement is characterised by an increasing linear trend, and avoidance and conflict by decreasing linear trends. Although empirical evidence supports this model (Tasca et al., 2006; Tasca, Flynn, & Bissada, 2002) other studies investigating group climate variables in gCBT interventions indicate the presence of a quadratic conflict trend , whereby group members become more comfortable with, and more adept at expressing and resolving disagreements (Bonsaksen, Lerdal, Borge, Sexton, & Hoffart, 2011). Figure 7 presents a theoretical depiction of these trends.
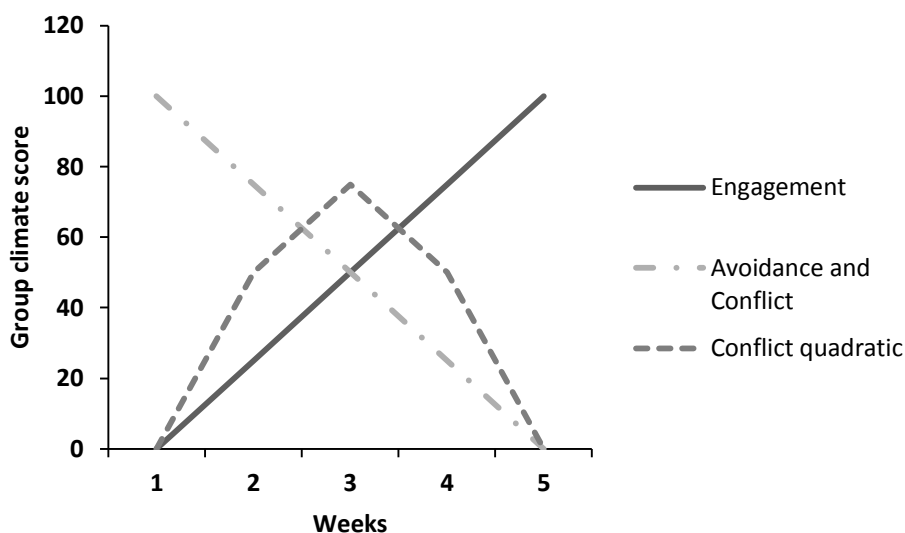
Figure 7. Theoretical depiction of typical group climate trends over the course of a gCBT intervention.

The focus on skills rather than interpersonal processes within gCBT interventions means that the importance of the group climate within this therapeutic modality has often been minimised. A number of studies have reported that high levels of cohesion are unrelated to treatment outcome in gCBT. In their gCBT intervention for social phobia, Woody and Adessky (2002) found that, contrary to their hypothesis, cohesion remained static over time and was unrelated to outcome. Joyce, Piper and Ogrodniczuk (2007) reported that

perceptions of cohesion did not demonstrate associations with improvement in a group psychotherapy intervention for complicated grief, which was consistent with findings by Kipnes, Piper and Joyce (2002). Furthermore, Oei and Browne (2006) did not find a relationship between cohesion and outcome in mood-disordered individuals undergoing gCBT.

However, other studies investigating the impact of cohesion within gCBT interventions have demonstrated that high levels of cohesion are predictive of therapeutic success across a range of conditions including lower levels of abuse in partner violent men (Taft, Murphy, King, Musser, & DeDeyn, 2003), positive outcome in binge-eating disorder (Castonguay et al., 1998) and symptom improvement for social phobia (Taube-Schiff, Suvak, Antony, Bieling, & McCabe, 2007) Studies investigating the specific impact of group climate variables on gCBT interventions have demonstrated that higher rates of engagement were associated with therapeutic improvement (Ogrodniczuk & Piper, 2003). Furthermore, higher rates of engagement in the middle to late stages of therapeutic groups have been demonstrated to be predictive of favourable long-term outcomes in outpatients with co-morbid psychiatric disorders (Bakali, 2013; Ryum, Hagen, Nordahl, Vogel, & Stiles, 2009). It is therefore apparent that even within highly structured and skill-based interventions, group climate variables can be an important determinant of therapeutic outcome.

Online group climate. Online group therapy is an emerging treatment modality and as such little is known about the development of group climate variables within this context. For example, it is unknown whether online groups, which demonstrate therapeutic success, exhibit the same characteristics as their face-to-face counterparts of increased engagement, diminished avoidance and greater abilities to manage within-group conflict. Furthermore, the

extent to which group climate variables are related to therapeutic outcomes has not yet been determined.

Preliminary research into online group processes suggests that they develop along similar lines to face-to-face groups. As discussed in Chapter 2 (p.78), Barak and Wander-Schwartz (2000) compared participants' perceptions of group process variables in an online and face-to-face group offering brief dynamic therapy to college students. Their results indicated similar perceptions of group cohesiveness, personal exposure, emotional disclosure, independence, order and organisation between the two groups. However, the online group reported greater levels of aggression, willingness to take action, and therapist support and control. Qualitative analysis of the seven session transcripts revealed that factors related to engagement, such as cohesiveness, offerings of personal support and interpersonal sensitivity increased over time in both groups. Additionally, the therapist facilitating the online group reported that although many of the group processes were similar to face-to-face groups she had led, interpersonal relationships appeared to develop faster online. The authors noted that these differences were consistent with the factors that typically characterise online group behaviour in other domains such as internet forums and online support groups.

Chapter 2 (p.85) also described the study conducted by Haug and colleagues (2008) examined the group processes involved in a psychodynamic online aftercare groups that followed face-to-face inpatient groups. Similar to Barak and Wander-Schwartz (2000), the findings from this investigation revealed that group processes did not differ markedly between face-to-face inpatient and online aftercare settings. Levels of emotional belongingness, engagement and activity increased steadily over time. The change in therapeutic setting did not significantly affect the development of these group processes. Furthermore, the participants reported significant satisfaction over time with the groups, which were not markedly disrupted by the transition to an online format. The authors

surmised that group process variables like emotional belongingness and active participation play an important therapeutic role in online groups and develop in a similar manner to face-to-face group settings.

The findings from these two studies suggest that for the most part, online group processes develop in a similar manner to face-to-face therapeutic groups. However, both of these online groups were psychodynamic in nature and therefore not highly structured or manualised. This is an important variable that may influence the development of group processes online. Furthermore, neither of these studies investigated the relationship between group process variables and therapeutic outcomes. Additional research is therefore justified in order to increase the knowledge base surrounding online group processes in gCBT interventions.

Research Aims and Hypotheses

This investigation aimed to explore the development of group climate variables in MoodGroup. Research into face-to-face groups using CBT as the treatment modality indicate that the group climate variables of engagement, avoidance and conflict change over the course of the intervention and are linked to therapeutic outcomes. Specifically, groups that experience increases in cohesion, decreases in avoidance and improvements in their ability to manage conflict are predictive of favourable long-term therapeutic gains. The limited available research on online group therapy processes suggests that they follow the patterns traditionally observed in face-to-face groups. Based on these research findings, it was hypothesised that levels of engagement would increase, avoidance decrease and conflict increase and then decrease over the course of the nine-week MoodGroup intervention.

An additional aim of this investigation was to investigate the relationship between group climate variables and treatment outcomes of the MoodGroup intervention. Research

into face-to-face gCBT interventions suggests that higher rates of engagement and lower rates of avoidance and conflict are predictive of favourable therapeutic outcomes that are maintained over time. It was therefore hypothesised that treatment gains at the end of the MoodGroup intervention would be predicted by high levels of engagement and low levels of conflict and avoidance at the conclusion of the MoodGroup intervention. Furthermore, it was hypothesised that favourable six-month follow up outcomes would be predicted by higher engagement ratings and lower avoidance and conflict ratings at the conclusion of the MoodGroup intervention.

Methodology

This investigation formed part of the larger research project evaluating the efficacy of the MoodGroup intervention. The research ethics, recruitment of participants and inclusion criteria is detailed in Chapter 4 (pp. 123-125).

Participants

The participants for this investigation were the same 57 individuals described in Chapter 4 who met the inclusion criteria and were assigned to participate in the treatment arm of the MoodGroup intervention. Of these 57 individuals, 52 elected to participate in one of six MoodGroups. And of these 52 individuals, 38 commenced a MoodGroup. The CONSORT diagram (Figure 3, p126) in the previous chapter provides a depiction of the flow of these participants through the research. Table 17 provides a summary of the demographic and internet-use characteristics of the participants who commenced a MoodGroup.

Table 17

Demographic Characteristics of MoodGroup Participants

Variables ($N = 38$)	
Gender	
Male	9 (23.7%)
Female	29 (76.3%)
Age	
M (*SD*)	36.03 (12.53)
Range	19-68
Highest education level	
High school	11 (28.9%)
Certificate qualification	2 (5.3%)
University degree	13 (34.2%)
Postgraduate qualification	9 (23.7%)
Missing	3 (7.9%)
Employment status	
Unemployed	10 (26.3%)
Student	9 (23.7%)
Part time or casual	9 (23.7%)
Full time	10 (26.3%)
Years of internet-use	
M (*SD*)	13.29 (4.47)
Range	5-30
Confidence using the internet	
Somewhat confident	2 (5.3%)
Confident	6 (15.8%)
Very confident	30 (78.9%)
Hours of daily internet use	
0-1	1 (2.6%)
2-5	22 (57.9%)
6-10	12 (31.6%)
11-15	3 (7.9%)

Measures

For the overall research project, MoodGroup participants were requested to complete

online outcome measure questionnaires at fortnightly intervals from the first to the ninth and

final week of their intervention. Thereafter they were requested to complete follow-up questionnaires one, three and six months after completing a MoodGroup. The outcome measures of interest in this investigation were the MDI, DASS-21 and QOLI-S. The MDI and DASS-21 were selected as these were the primary outcome measures in the efficacy trial. The QOLI-S was further selected owing to the demonstrated impact of MoodGroup on participants' QoL. The online outcome measure questionnaires from the first to the final week of the MoodGroup intervention also included the Group Climate Questionnaire-Shortened (GCQ-S; Mackenzie, 1983), which obtained details about the participants' group climate perceptions. A description of the GCQ-S and its psychometric properties is provided below. Chapter 4 provides this information for the MDI, DASS-21 and QOLI-S (pp. 130-132).

The Group Climate Questionnaire-Shortened. (GCQ-S; Mackenzie, 1983) is a shortened version of the Group Climate Questionnaire. It is a self-report measure that assesses individual group member's perceptions of the group's therapeutic environment. It contains 12 statements rated on a seven-point Likert scale (0 = Not at all and 6 = Extremely) indicating extent of agreement. The GQC-S consists of three factor-analytically derived subscales of Engagement (group cohesion), Avoidance (reliance on group facilitators) and Conflict (interpersonal conflict and tension within the group). The GCQ-S has reported Cronbach's alphas ranging from .88 to .91 (Kivlighan & Goldfine, 1991). The construct validity of the GCQ-S is supported by studies demonstrating that members of successful psycho-therapeutic groups perceive the group climate to be characterised by high levels of engagement and low levels of conflict and avoidance (Kanas & Barr, 1986; MacKenzie et al., 1987). In the current investigation, Cronbach's alpha at pre-treatment was .74 for Engagement, .60 for Avoidance and .79 for Conflict. Appendix M provides a copy of the GCQ-S.

Table 18 presents the questionnaire response rate at each time point.

Table 18

MoodGroup Online Questionnaire Response Rates

	Time Point					
	T1	T2	T3	T4	T5	FU3
Attendees	38	29	26	17	21	21
Completed questionnaires	34	19	20	14	16	21
Response rate (%)	89.4	65.51	76.92	82.35	76.90	100.00

Note: T1= baseline; T3= midpoint, T5= endpoint/post-treatment, FU3 = six-month follow-up.

Procedure

Group management. A description of the management of the MoodGroup intervention is described in Chapter 4 (pp. 133-134). This provides information on the facilitators, communication with group members and treatment groups.

Statistical Analysis

The raw data were imported from Qualtrics, the online questionnaire software used in the research project, into Microsoft Excel$^{©}$. Where required, data were reverse-scored and subscale scores calculated. Once completed, the data were imported into SPSS version 21 where cleaning and screening was undertaken prior to statistical analysis. As the questionnaires were completed online in a forced-choice format, there were no missing data.

Assumption Testing

All outcome variable data were assessed to determine whether the assumptions of normality and homogeneity of variance were met. The distributions of the outcome measures were examined using visual inspection of the data plots, skew, kurtosis and P-plots to

determine normality. Homogeneity of variance was assessed inferentially using Levene's

test. All outcome variables apart from the GCQ-C were normally distributed and met the

assumption of homogeneity of variance. The GCQ-C demonstrated extreme positive skew.

Ladders of powers and power transformations were applied to the GCQ-C with little success.

However, removal of three outliers corrected the normality of the GCQ-C.

Mauchley's test of sphericity was not significant for engagement, conflict or

avoidance, therefore enabling sphericity to be assumed in the one-way repeated measures

ANOVA examining group climate over time. The data were screened for violations of

linearity, normality, independence of observations and homogeneity of variance prior to

conducting the regression analyses that examined predictors of outcome at post-treatment and

follow-up. Multicollinearity and normal distributions of residuals were further examined for

the follow-up regression analysis. Visual inspection of the scatterplots of the group climate,

T5 and FU3 variables indicated the presence of a linear relationship between the variables.

The assumption of linearity was therefore met. The distributions of the outcome measures

were examined using visual inspections of the data plots, skew, kurtosis and and P-plots to

determine normality. This inspection suggested a relatively normal distribution for all

outcome variables. The Durbon-Watson statistic was computed to evaluate the independence

of errors. These figures ranged between 1.31 - 2.93 for the post-treatment analysis and 1.32 –

2.68 for the follow-up analysis. These figures are considered acceptable, suggesting that the

assumption of independence of observations was met. Visual inspection of scatterplots

revealed a constant spread of residuals over the range of values of the independent variables.

This relatively random display of points provided evidence of homogeneity of variance. In

the follow-up regression analysis, all condition indices were below the threshold value of 30,

indicating that the independent variables were not highly correlated with each other. This

suggests that the assumption of multicollinearity was met. Visual inspection of the Normal

Q-Q Plots of the standardised residuals suggested relatively normal distributions. This provides evidence that the residuals in the follow-up regression analysis were approximately normally distributed (Field, 2003)

Overview of Analyses

Data were examined in four separate sets of analyses. The first analysis determined if a group allocation effect was present, and the second investigated the relationship between the group climate variables over time. The third analysis examined whether group climate variables predicted treatment outcomes at the conclusion (T5) of the MoodGroup intervention and the fourth examined whether group climate variables predicted treatment outcomes at six-month follow-up (FU3).

Effects of allocation. To examine the homogeneity of the MoodGroups, the demographic characteristics and baseline data of the six individual MoodGroups were compared using single-factor, between-subjects ANOVAS. Fisher's exact test was used for variables that were measured on a nominal scale.

Group climate. The pattern of change for the group climate variables over the five time-points (T1-T5) was assessed using trend analysis. A one-way repeated measures ANOVA determined whether significant quartic, cubic, quadratic or linear trends existed for the three group climate variables, (engagement, conflict and avoidance) over the course of the MoodGroup intervention. Within this analysis, time was the sequential independent variable and the group climate variables were the dependent variables.

Predictors of outcome at T5. A simple regression model examined the relationship between the group climate variables and treatment outcome at the conclusion of the MoodGroup intervention. The simple regression model tested the significance and order of

magnitude of individual predictors. Change scores for the MDI, DASS-T and QOLI-S were calculated from T1 to T5. These served as the dependent variables. As mentioned previously, high levels of engagement in the mid to late stages of the group are predictive of positive therapeutic outcomes (Bakali, 2013). Therefore, change scores for the GCQ-E were calculated from T1 to T4. This served as the predictor within the engagement model. Change scores for the GCQ-A and GCQ-C were calculated from T1 to T5. These served as the predictors within the avoidance and conflict models respectively.

Predictors of outcome at FU3. This analysis was modelled on the procedure used by Ryum and colleagues (2009) in their investigation of the relationship between group climate variables and long-term follow-up outcome in a face-to-face gCBT intervention for individuals with comorbid psychiatric disorders. Hierarchical multiple regression analyses determined whether group climate variables predicted six-month follow-up outcomes. Pre- and post-treatment scores were entered as step one and two respectively in each regression model in order to partial out potentially confounding effects. Thereafter, the three group climate variables of engagement, avoidance and conflict were entered individually in step three in separate analyses for each six-month follow-up outcome variable.

Results

The analyses are presented in four separate sections: effect of allocation, group climate and predictors of outcome at MoodGroup's conclusion and six-month follow-up. Details related to attrition are located in Chapter 4 (p.139).

Effect of Allocation

To examine whether a selection bias occurred when participants were allocated to MoodGroups, the demographic characteristics and baseline data of each of the six separate MoodGroups were compared using one-way ANOVAS or Fishers exact tests. Table 19 summarises these comparisons. An analysis of these data revealed no significant differences between these six groups in demographic information, internet-use characteristics, concurrent treatment use and pre-treatment outcome measures. It can therefore be concluded that a selection bias did not occur in the allocation process and that no significant systemic differences existed between the six MoodGroups. It was therefore deemed appropriate to analyse the sample in its entirety, without controlling for group allocation.

Group Climate

Engagement. The mean engagement score across the intervention was 3.34 (SD = 1.15). There was a significant change in engagement scores across time, $F (4, 40) = 5.67$, p = .001, η^2 = .36, 95%CI [4.03, 44.03]. Analysis of the within-subjects contrasts revealed a significant linear trend, $F (1, 11.39) = 13.49$, p <.05, η^2 = .57, 95%CI [1.34, 37.03]. This indicates that the mean engagement scores increased over time at a constant rate.

Conflict. The mean conflict score across the intervention was 0.35 (SD = 0.42). Conflict scores changed significantly over time, $F (4, 32) = 66.91$, p <.05, η^2 = .89, 95%CI [138.39, 428.58]. Analysis of the within-subjects contrasts revealed a significant quadratic trend, $F, (1, 42.00) = 90.72$, p = .00, η^2 = .92, 95%CI [44.56, 151.74]. This indicates that the mean conflict scores experienced two distinct changes of direction, from low to high and back to low again.

Table 19

Comparison of Demographic, Internet-Use and Pre-Treatment Characteristics between Individual MoodGroups

Variable	Group 1 (*n* = 5)	Group 2 (*n* = 7)	Group 3 (*n* = 6)	Group 4 (*n* = 6)	Group 5 (*n* = 7)	Group 6 (*n* = 7)	*F*	*p*
Gender							-	.46[a]
Female	4 (80.0%)	6 (85.7%)	4 (66.7%)	6 (75.0%)	4 (57.1%)	7 (100%)		
Male	1 (20.0%)	1 (14.3%)	2 (33.3%)	2 (25.0%)	3 (42.9%)	0 (0.0%)		
Age							1.14	.36[b]
M (*SD*)	45.00 (15.67)	39.43 (13.70)	34.67 (11.31)	34.00 (11.47)	28.86 (11.51)	36.29 (11.04)		
Range	30-68	21-64	20-50	23-48	19-46	26-55		
Education							-	.42[a]
High school	0 (0.0%)	2 (28.6%)	2 (33.3%)	2 (40.0%)	3 (42.9%)	2 (28.6%)		
Certificate qualification	1 (33.3%)	1 (14.3%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)		
University degree	1 (33.3%)	4 (57.1%)	2 (33.3%)	3 (60.0%)	2 (28.6%)	1 (14.3%)		
Postgraduate qualification	1 (33.3%)	0 (0.0%)	2 (33.3%)	0 (0.0%)	2 (28.6%)	4 (57.1%)		
Employment							-	.30[a]
Unemployed	2 (40.0%)	2 (28.6%)	2 (33.3%)	2 (33.3%)	2 (28.6%)	0 (0.0%)		
Student	0 (0.0%)	3 (42.9%)	2 (33.3%)	1 (16.7%)	1 (14.3%)	2 (28.6%)		
Casual or part-time	3 (60.0%)	1 (14.3%)	0 (0.0%)	2 (33.3%)	4 (57.1%)	2 (28.6%)		
Full time	0 (0.0%)	1 (14.3%)	2 (33.3%)	1 (16.7%)	0 (0.0%)	3 (42.9%)		
Internet confidence							-	.35[a]
Somewhat confident	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	2 (28.6%)		
Confident	1 (20.0%)	1 (14.3%)	2 (33.3%)	1 (16.7%)	1 (14.3%)	0 (12.5%)		
Very confident	4 (80.0%)	6 (85.7%)	4 (66.7%)	5 (83.3%)	6 (85.7%)	5 (71.4%)		
Internet years							1.60	.19[b]
M (*SD*)	16.40 (8.36)	15.71 (3.55)	11.00 (3.23)	11.33 (3.83)	12.57 (3.74)	13.00 (2.24)		
Range	7-30	11-20	8-15	5-15	10-20	10-15		

Variable	Group 1 (n = 5)	Group 2 (n = 7)	Group 3 (n = 6)	Group 4 (n = 6)	Group 5 (n = 7)	Group 6 (n = 7)	F	p
Hours per day of internet use							-	.38[a]
0-1	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (14.3%)		
2-5	4 (80.0%)	3 (42.9%)	5 (83.3%)	3 (50.0%)	3 (42.9%)	4 (57.1%)		
6-10	0 (0.0%)	4 (57.1%)	1 (16.7%)	3 (50.0%)	2 (28.6%)	2 (28.6%)		
11-15	2 (20.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	2 (28.6%)	0 (0.0%)		
Current treatment							-	.66[a]
Nothing	2 (40.0%)	0 (20.0%)	2 (33.3%)	2 (33.3%)	1 (14.3%)	3 (42.9%)		
Medication only	1 (20.0%)	4 (47.1%)	1 (16.7%)	0 (0.0%)	2 (28.6%)	1 (14.3%)		
Psychotherapy only	1 (20.0%)	1 (14.3%)	0 (0.0%)	1 (16.7%)	2 (28.6%)	0 (0.0%)		
Combination	1 (20.0%)	2 (28.6%)	3 (50.0%)	2 (33.3%)	2 (28.6%)	3 (42.9%)		
Other	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (16.7%)	0 (0.0%)	0 (0.0%)		
Pre-treatment outcomes								
MDI [M (SD)]	16.40 (8.34)	25.14 (9.41)	20.33 (10.09)	28.17 (11.02)	26.29 (12.31)	26.71 (9.53)	0.16	.98[b]
DASS-T [M (SD)]	61.60 (16.46)	52.57 (28.58)	46.00 (14.97)	48.67 (18.10)	56.29 (33.44)	52.86 (19.76)	0.34	.89[b]
QOLI-S [M (SD)]	26.80 (8.93)	31.43 (6.60)	28.83 (9.48)	23.68 (3.62)	28.00 (7.37)	27.57 (8.46)	0.47	.80[b]
GCQ-E [M (SD)]	2.20 (0.28)	2.70 (0.92)	3.16 (0.62)	2.33 (0.67)	2.53 (1.27)	3.37 (1.04)	1.15	.36[b]
GCQ-A [M (SD)]	1.33 (1.41)	2.78 (1.56)	2.47 (0.69)	2.50 (0.81)	2.94 (0.25)	1.83 (0.96)	1.18	.35[b]
GCQ-C [M (SD)]	0.75 (1.06)	0.58 (0.82)	0.20 (0.21)	0.38 (0.31)	1.05 (1.19)	0.25 (0.32)	1.96	.12[b]

Note. [a] From Fisher's Exact Test. [b] From one-way ANOVA. Major Depression Inventory (Bech et al., 2001); DASS-T = Depression Anxiety and Stress Scales 21Total Score (Lovibond & Lovibond, 1993); QOLI-S = Quality of Life Inventory-Shortened (Frisch 1994); GCQ-E= Engagement subscale of the Group Climate Questionnaire-Shortened (GCQ-S); GCQ-A = Avoidance subscale of the GCQ-S; GCQ-C = Conflict subscale of the GCQ-S (MacKenzie, 1983).

Avoidance. The mean avoidance score across the intervention was 2.20 ($SD = 1.05$). Although the mean avoidance scores reduced in a linear fashion from T1 (2.79) to T5 (2.09), this change in avoidance scores across time was not significant, $F (4, 40) = 1.50$, $p = .22$, $\eta^2 = .13$, 95%CI [0.00, 15.95] and failed to display any significant trends.

Figures 8 provides a visual representation of the engagement, conflict and avoidance trends.
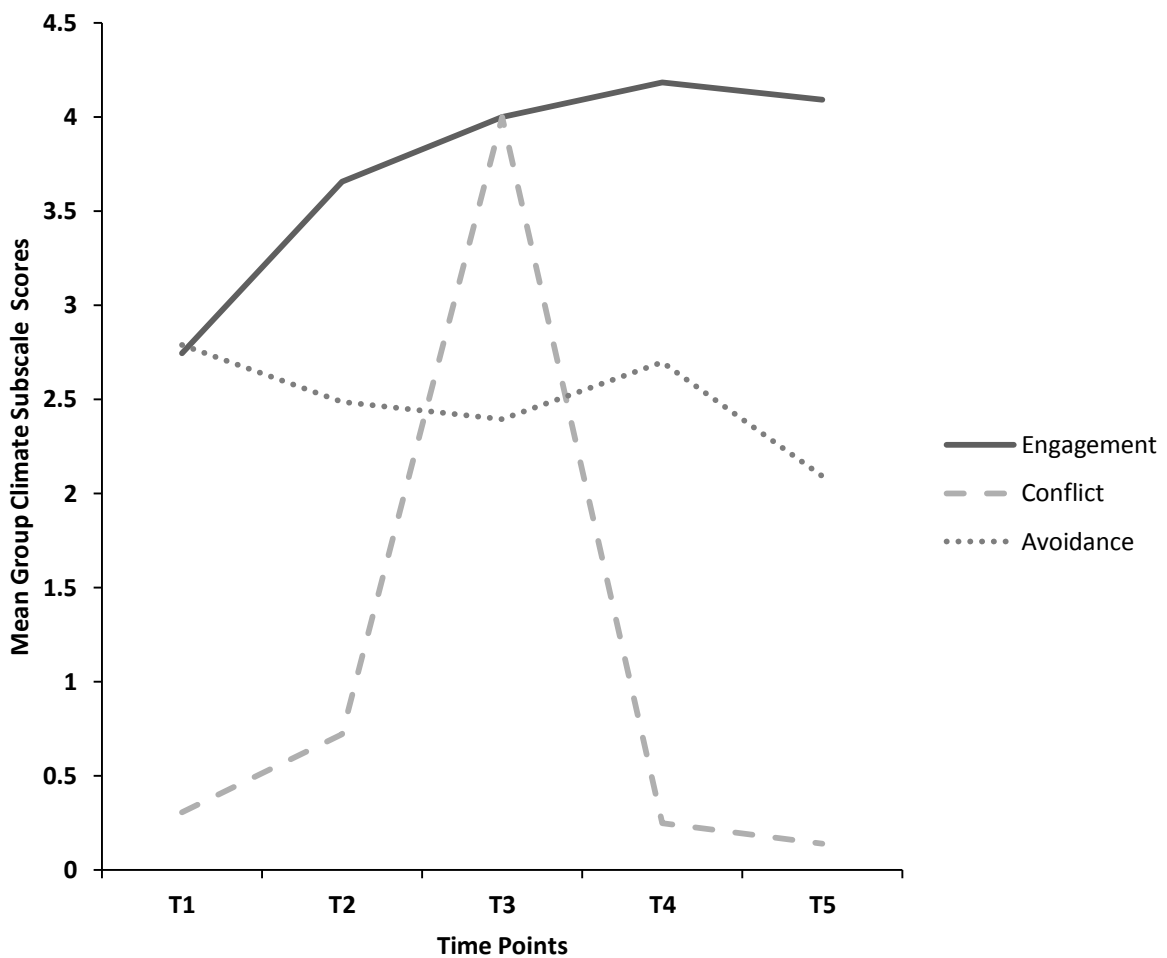
Figure 8. Visual representation of the group climate trends in the MoodGroup intervention. T1= baseline; T3 = midpoint; T5 = post-treatment

Predictors of Post-Treatment Outcome

Simple linear regression analyses were conducted to determine if group climate variables predicted post-treatment outcomes. Results suggest that higher ratings of engagement in the latter stages of a MoodGroup were a statistically significant predictor of reduced overall psychological distress at the conclusion of the intervention. Reduced ratings of conflict at the end of the intervention predicted reduced overall psychological distress at post-test. Avoidance ratings did not predict post-treatment outcomes. A summary of the linear regression analysis is presented in Table 20.

Predictors of Six-Month Follow-Up Outcome

Hierarchical multiple regression analyses determined whether group climate variables predicted six-month follow-up outcomes. Results indicated that higher engagement ratings at the conclusion of the MoodGroup intervention statistically significantly predicted reduced overall psychological distress and improved QoL six months after the intervention's conclusion. Reduced ratings of conflict at the conclusion of the intervention predicted reduced overall psychological distress and improved QoL at six-month follow-up. Reduced ratings of avoidance at the conclusion of the intervention predicted reductions in depression and overall psychological distress; and improved QoL six months after the conclusion of the MoodGroup intervention. Table 20 summarises the hierarchical multiple regression analysis.

Table 20

Prediction of Post-Treatment Outcomes (T5) using the Group Climate Questionnaire- Short Form

Predictor	n	B	SE	β	95% CI LL	95% CI UL	R^2	F	p	η^2	95% CI LL	95% CI UL	Dependent variable
Engagement	13	3.46	2.50	.39	-2.03	8.96	.15	1.9	.19	.15	.00	.47	MDI change score T1-T4
Conflict	16	1.21	5.92	.06	-11.49	13.92	.00	0.04	.84	.00	.00	.10	MDI change score T1-T5
Avoidance	18	1.76	2.12	.20	-2.75	6.26	.04	0.68	.42	.04	.00	.29	MDI change score T1-T5
Engagement	13	8.69	3.66	.58	0.63	16.75	.34	5.63	.04	.34	.00	.61	DASS-T change score T1-T4
Conflict	16	24.40	10.27	.54	2.37	46.43	.29	5.64	.03	.29	.00	.10	DASS-T change score T1-T5
Avoidance	18	-0.91	3.93	-.01	-9.23	7.42	.00	0.05	.82	.00	.00	.11	DASS-T change score T1-T5
Engagement	13	1.44	1.33	.31	-1.50	4.39	.01	1.16	.30	.10	.00	.42	QOLI-S change score T1-T4
Conflict	16	1.53	4.07	.10	-7.20	10.26	.01	0.14	.71	.01	.00	.22	QOLI-S change score T1-T5
Avoidance	18	1.54	1.23	.30	-1.06	4.15	.09	1.58	.23	.09	.00	.37	QOLI-S change score T1-T5

Note: MDI=Major Depression Inventory (Bech et al., 2001); DASS-T = Depression Anxiety and Stress Scales 21Total Score (Lovibond & Lovibond, 1993); QOLI-S = Quality of Life Inventory-Shortened (Frisch 1994). T1 = baseline; T5= post-treatment.

<center>**Discussion**</center>

This chapter examined the development of group climate in MoodGroup and investigated the relationship between group climate variables and therapeutic outcomes at both the conclusion of the MoodGroup intervention and at six-month follow-up.

Development of Group Climate

The hypothesis that levels of engagement would increase over time according to a linear trend was supported. The trend analysis indicated that engagement increased over time in a significant linear trend, displaying a medium effect size. The hypothesis that conflict would fluctuate according to a quadratic trend was also supported. Conflict changed significantly over time and developed according to a significant quadratic trend in a low-high-low pattern with a large effect size. However, the hypothesis that avoidance would decrease in a linear trend was not supported. Although avoidance decreased over the course of the MoodGroup intervention, this change was neither significant nor displayed any significant trends.

The linear trend of engaged group climate for the MoodGroup intervention is consistent with the trends displayed in face-to-face gCBT interventions for both binge-eating disorder (Tasca et al., 2006) and social phobia (Bonsaksen et al., 2011). Both of these interventions displayed a gradual increase in engagement over time. The MoodGroup engagement trend is also consistent with Raue's (1997) assertion that cognitive treatments are characterised by increasing levels of therapeutic alliance over the treatment course. Tasca and colleagues propose that this trend results from the structure of cognitive interventions whereby group members become increasingly responsible for setting their treatment agenda and engaging in problem-solving over time, likely leading to feelings of increased

Table 21

Prediction of Six Month Follow-Up (FU3) Outcomes using the Group Climate Questionnaire- Short Form

Step	Predictor ($n = 24$)	B	SE	β	95%CI		ΔR^2	F	p	η^2	95% CI		Dependent variable
					LL	*UL*					*LL*	*UL*	
													MDI Six-month FU
3	Engagement ($n = 18$)	-1.67	2.27	-.16	-6.54	3.19	.03	2.59	.09	.36	.00	.55	
3	Conflict ($n = 17$)	10.20	8.80	.27	-8.81	29.20	.06	3.26	.06	.43	.00	.61	
3	Avoidance ($n = 18$)	6.24	1.80	.58	2.38	10.11	.31	8.30	.00	.64	.16	.76	
													DASS-T Six-month FU
3	Engagement ($n = 18$)	-0.33	5.27	-.01	-11.63	10.98	.00	5.73	.01	.55	.06	.69	
3	Conflict ($n = 17$)	11.14	20.04	.11	-32.53	54.80	.01	5.70	.01	.59	.05	.72	
3	Avoidance ($n = 18$)	14.31	3.54	.51	6.73	21.90	.24	17.88	.00	.79	.42	.86	
													QOLI-S Six-month FU
3	Engagement ($n = 18$)	1.34	2.00	.15	-2.95	5.63	.02	4.39	.02	.48	.01	.65	
3	Conflict ($n = 17$)	-6.84	7.22	-.21	-22.44	8.76	.03	4.55	.02	.51	.01	.67	
3	Avoidance ($n = 18$)	-2.88	1.64	-.31	-6.40	0.64	.10	6.03	.01	.56	.07	.70	

Note: FU = follow-up; MDI=Major Depression Inventory (Bech et al., 2001); DASS-T = Depression Anxiety and Stress Scales 21Total Score (Lovibond & Lovibond, 1993); QOLI-S = Quality of Life Inventory-Shortened (Frisch 1994).

engagement and involvement. Bonsaksen and colleagues however propose that the rise in engagement results from the positive changes experienced by individual group members, which in turn positively influences the group processes. As the MoodGroup participants were required to take an increasingly active role in the therapeutic process, and demonstrated positive therapeutic gains over time, it is likely that both of these explanations account for the linear engagement trend displayed.

The quadratic trend with a low-high-low pattern of conflict displayed by the MoodGroup intervention is consistent with the trend displayed in a face-to-face gCBT social phobia intervention (Bonsaksen et al., 2011), but not the binge-eating intervention, which displayed a decreasing linear trend (Tasca et al., 2006). Tasca and colleagues proposed that cognitive interventions emphasise the maintenance and development of collaborative relationships throughout treatment and as such do not display the rupture–and-repair sequence, which is characteristic of interpersonal and psychodynamic therapies. As such, they correctly hypothesised that their gCBT intervention for binge-eating disorder would be characterised by a decreasing linear trend in conflict group climate. Bonsaksen and colleagues attributed the different conflict trends in these two studies to sample characteristics, stating that individuals with social phobia express themselves differently to those with binge-eating disorder, and frequently require more time to communicate disagreements and differences of opinion.

Although sample characteristics may play a role, it is likely that the online nature of the MoodGroup intervention accounts for its quadratic rather than linear conflict trend. According to Weinberg (2001), compared with face-to-face interactions, individuals in online groups communicate in a less inhibited manner. Furthermore, the lack of audio-visual cues increases the likelihood that this communication will be misunderstood or taken out of context, in turn increasing the likelihood of conflict. This was demonstrated in Barak and

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Wander-Schwartz's (2000) comparison of an internet and face-to-face therapeutic group which reported higher levels of aggression in the online group. Words in an online setting are open to interpretation without the benefit of non-verbal cues to help assign meaning. Perceptions of conflict could therefore increase as group members became more comfortable within the group and communicated more openly. However, over time the group may have become more adept at communicating clearly and managing any resulting miscommunications, resulting in decreased conflict perceptions. This may explain the low-high-low pattern of conflict present in the MoodGroup intervention. It is worth noting that the GCQ-S is a self-report of perceived group climate. Thus, this survey only measures the group members' subjective perceptions of the group environment. Further research using objective analysis of the session transcripts is required to determine conclusively whether group members became more adept at expressing and managing conflict over time.

Although avoidance decreased throughout the MoodGroup intervention, this trend was not significant. Tasca and colleagues (2006) theorised that as group members in CBT-based interventions become more active in the group and assume more responsibility for their change behaviours they are more likely to record decreases in avoidance behaviours. The significant decreasing linear trend in the avoidance climate of their face-to-face gCBT intervention for binge-eating disorder provided support for this theory. However, contrary to their hypothesis, Bonsaksen and colleagues (2011) did not report significant reductions in avoidance over the course of their face-to-face gCBT intervention for social phobia. Once again, these authors proposed that sample characteristics play an important role in avoidance behaviours. Social phobia is characterised by difficulties with assertiveness, connectedness and openness, which are all important qualities for fostering change and reducing avoidance behaviours. These authors therefore concluded that the nature of their sample accounted for the limited changes in the avoidance climate for their intervention.

Although sample characteristics undoubtedly play an important role in group climate development, it is more likely that the structure of the MoodGroup intervention accounted for the non-significant reductions in avoidance behaviours. In the present investigation, the mean group climate score for avoidance was 2.20 ($SD = 1.05$) which is lower than the mean avoidance scores of 2.50 ($SD = 0.74$) and 2.60 (SD = 0.68) respectively in the social phobia (Bonsaksen et al., 2011) and binge-eating disorder (Tasca et al., 2006) interventions. The conventional structure of gCBT interventions is for the treatment material and corresponding home-practice activities to be presented during the course of the group session. As such, group members are not required to participate in any preparation work. In contrast, the MoodGroup intervention was structured so that group members were required to complete weekly pre-readings and home practice activities prior to each of the sessions. The sessions were conducted on the assumption that this work had been completed. Group members who did not complete their preparations reported having difficulty keeping up with the group, which in turn motivated them to complete the work assigned to them in the future. Prior to commencing a MoodGroup, participants were clearly informed of the preparatory work that was required. They therefore entered the intervention knowing that they were required to take responsibility for their individual change process and the structure of the intervention supported this. This likely lowered overall avoidance scores in comparison to conventional gCBT interventions, and may have contributed to the lack of a significant decrease.

The way in which group climate developed over the course of the MoodGroup intervention is similar to the model described by Kivlighan and Goldfine (1991). Based on MacKenzie's (1983) theoretical description of group processes, this model describes the development of group climate in three distinct stages. The first stage is characterised by relatively low levels of engagement and conflict and high levels of avoidance. This is known as the *engagement* stage where group members deal with issues related to commitment and

involvement. According to MacKenzie (1997), the initial task of this stage is to create a sense of group membership. The facilitator works to stimulate levels of self-disclosure and communication amongst group members. This leads to group members experiencing increased perceptions of wellbeing resulting from feelings of being accepted and understood, in turn increasing levels of group cohesion.

In the second stage, levels of engagement and avoidance are moderate whilst conflict is relatively high. This is known as the *differentiation* stage where group members deal with issues of power and control. This stage is characterised by a shift from a collaborative environment to one marked by increased interpersonal tensions. It becomes common for group members to challenge the facilitator as well as other group members. The essential task for this stage is for group members to learn to confront the issues presented to them whilst still providing support and acceptance. In this manner, patterns for conflict resolution and the tolerance of negatively charged atmospheres develop (MacKenzie, 1997).

In the third stage, levels of engagement are at their highest whilst the levels of conflict and avoidance scores are relatively low. This is known as the *individuation* stage whereby group members explore personal issues. According to MacKenzie (1997), in this stage group members experience greater introspection and increased closeness as they align to explore common issues that are difficult for them.

According to Kivlighan and Goldfine's (1991) model of group stage development, engagement progressively increases through the three stages of engagement, differentiation and individuation. The linear trend for engagement demonstrated in the MoodGroup intervention is consistent with this model, suggesting a steady increase in engagement over the duration of the group. The quadratic trend for conflict provides further evidence of the movement of the group through these three stages. As predicted by Kivlighan and Goldfine's

model, conflict in the MoodGroup intervention was low in the engagement stage, peaked in the differentiation stage and reduced during individuation. Although not significant, avoidance did demonstrate marked reductions during each of the three stages, which is once again consistent with Kivlinghan and Goldfine's model of group stage development.

The MoodGroup intervention was designed to support the progression of the groups through these three stages. The first third of the intervention emphasised building group identity, recognising commonalities and engaging in collaborative problem-solving. These activities foster a sense of group cohesion and correspond with the primary task of the engagement stage - developing a sense of group membership. In the middle third of the intervention, group members work to identify and challenge their cognitive distortions, not just for themselves but for each other, which can be perceived as confronting. Group members learn to challenge each other and themselves logically and calmly, and to develop more adaptive cognitions and coping strategies. They become more skilled in resolving conflict and managing negative environments, the key tasks for the differentiation stage. The third and final stage of the MoodGroup intervention focusses heavily on discussing and dealing with interpersonal matters including difficulties with social networks and assertiveness, and relapse management. Group members are encouraged to work collaboratively to develop strategies to manage these difficulties. As such they fulfil the goal of the individuation stage, which is to align together to explore common problems. The group climate trends displayed over the course of the MoodGroup intervention indicate a clear progression through these three stages and suggest that the intervention's structure and activities work to enhance and enrich the overall group climate.

The seminal work conducted by Barak and Wander-Schwartz (2000) and Haug and colleagues (2008) into the development of group processes online suggested that internet-based therapeutic groups developed similarly to traditional face-to-face groups. Both studies

demonstrated that group processes such as cohesion, expression of feelings and personal exposure are essentially similar online and off-line. The results of the present investigation provide further evidence to support the notion that online therapeutic group processes mirror those occurring in face-to-face groups. Furthermore, the present research has demonstrated that an online gCBT intervention that is both structured and manualised closely approximates the three-stage model of group process development in offline psychotherapeutic groups in general and the group processes commonly displayed in face-to-face CBT interventions.

Predictors of Post-Treatment Outcome

The hypothesis that treatment gains at the conclusion of the MoodGroup intervention would be predicted by higher ratings of engagement and reduced ratings of conflict and avoidance was partially supported. Reduced overall psychological distress was predicted by both higher ratings of engagement and reduced ratings of conflict. Avoidance ratings did not however predict post-treatment outcomes.

Engagement. Although higher levels of engagement in the latter stages of the MoodGroup intervention were predictive of reduced psychological distress, its influence in predicting overall post-treatment outcome was not as pervasive as anticipated. The premise that engagement, which incorporates many aspects of cohesion, predicts positive therapeutic outcomes holds intuitive appeal. It seems likely that group members who perceive that they get on well with each other will be better able to engage in therapeutic tasks and thus reap greater benefits. Perceptions of high engagement may also be reflective of greater involvement in therapeutic work behaviours. Furthermore, feelings of belonging may encourage group members to take greater therapeutic risks within the group such increasing self-disclosure or trying new ways to interact. These behaviours are all associated with positive therapeutic outcome (Ogrodniczuk & Piper, 2003).

Indeed, a number of studies have found a positive relationship between cohesion and/or engagement and outcome in group-based CBT interventions across a range of psychological disorders including agoraphobia (Hand, Lamantogne, & Marks, 1974), domestic violence (Taft et al., 2003), social anxiety (Taube-Schiff et al., 2007) and binge-eating disorder (Castonguay et al., 1998). Taube-Schiff and colleagues proposed that members of highly cohesive groups likely experience feelings of acceptance, group bonding and overall support, in turn decreasing negative mood states, stress and feelings of loneliness. This explanation may partially account for the influence of engagement on overall psychological distress in the MoodGroup intervention. It is also likely that improvements in group members' mental health foster more functional group dynamics, which in turn positively affected their levels of overall psychological distress and stress.

Some research however disputes the relationship between engagement and positive therapeutic outcome in group-based CBT interventions (Joyce et al., 2007; Kipnes et al., 2002; Oei, & Browne, 2006; Woody & Adessky, 2002). There exist a number of explanations to account for these findings. Joyce and colleagues (2007) proposed that the time-limited nature of short-term interventions does not provide sufficient opportunity for perceptions of emerging engagement to be significantly linked to therapeutic benefits. The highly structured nature of CBT interventions may further restrict perceptions of engagement. Unlike psychodynamic interventions, group members in CBT-based treatment have little opportunity to discuss freely their personal issues, an important characteristic of a highly engaged group (Oei & Browne, 2006). Whilst the structured format encourages group members to provide feedback to each other in relation to skill-based activities, it does not necessarily encourage active group processes and may consequently hinder the development of bonds amongst group members strong enough to influence therapeutic outcomes (Woody & Adessky, 2002).

Despite the brief and highly structured nature of the intervention, MoodGroup participants did experience significant perceptions of increased group engagement over time. Hornsey, Dwyer and Oei (2007) suggest that this experience may in fact be counter-therapeutic. These authors explain that the more engaged a group, the more its members will assimilate to its collective values and attitudes and the less they will define themselves as unique individuals. This may result in group members feeling unwilling to express opinions that confront, criticise or challenge the group. They may value being liked and accepted over all other considerations including delivering challenging feedback, expressing different opinions or challenging the group culture, which may limit therapeutic growth. Whilst groups that are high in engagement are generally valued and enjoyed by group members more so than groups characterised by conflict, the latter groups may perform better as there is more opportunity for personal expression and development.

It is possible that the online, text-based nature of the MoodGroup intervention exacerbated the difficulties in developing a group climate of engagement capable of positively influencing therapeutic outcomes. Communicating via synchronous online chat is more onerous and time-consuming than communicating face-to-face (Graetz et al., 1998). Indeed, MoodGroup participants and their facilitators did report that at times it was difficult to follow and respond to each group member's individual stream of conversation. This may have limited opportunities to challenge the group or to self-disclose, in turn hindering perceptions of engagement.

Conflict. Conflict plays an important role in post-treatment outcome as low levels of perceived conflict at the end of the MoodGroup intervention were found to significantly predict reduced scores on depression and psychological distress. According to Ogrodniczuk and Piper (2003) therapeutic work involves the self-disclosure of personal information and

challenging and confronting other group members. This may be difficult to do when there is perceived conflict and friction as this may hinder these behaviours and even exacerbate symptoms. However, as noted by Hornsey and colleagues (2007) the presence of conflict within a group may facilitate therapeutic change by promoting opportunities for personal expression and development. Kivlighan and Lilly (1997) assert that the management of conflict, rather than its absence or presence, is an important determinant of therapeutic benefit. Unresolved conflict is likely to result in ruptures in trust and engagement and promote avoidance behaviours. However, conflict that is well-managed within the group can promote the challenging of defences and lead to further self-disclosure and positive change behaviours. These authors state that the low-high-low pattern of conflict, as evidenced in the MoodGroup intervention, leads to enhanced therapeutic outcomes. Limited perceptions of conflict early in the group facilitate the establishment of engagement whilst increased levels of conflict in the middles stage are necessary for challenging defences and deepening self-disclosure. Positive outcomes are further promoted by the resolution and reduction of conflict in the final stages of the group.

A number of studies provide evidence to support this theory. In their examination of outpatient psychotherapy groups, Phipps and Zastowny (1988) demonstrated that groups who were successfully able to resolve their experience of conflict demonstrated improved therapeutic outcomes. Additionally, Crowe and Grenyer (2008) investigated the relationship between depression and perception of conflict in a group intervention and concluded that the more group members perceive themselves and others as being able to successfully resolve conflict, the lower the levels of depressive symptomatology at the end of the therapeutic intervention. Castonguay and colleagues (1998) revealed the presence of three distinct phases in their gCBT intervention for binge-eating disorder. An initial stage of positive engagement was followed by a middle stage whereby perceptions of negative group climate existed. This

was followed by a final stage characterised by a greater sense of intimacy and positive involvement. The development of these group processes over time was associated with positive therapeutic outcome at the conclusion of the intervention. In this respect, the patterns of conflict demonstrated in the MoodGroup intervention appear to have functioned similarly to effective face-to-face gCBT interventions.

It is possible that the online nature of the MoodGroup intervention exaggerated the impact of conflict and its ability to predict therapeutic outcomes. As stated previously, communication within online groups are characterised by higher levels of aggression and greater potential for miscommunication than their face-to-face counterparts (Barak & Wander-Schwartz, 2000; Weinberg, 2001). The experience of conflict and its resolution may therefore have been highly pronounced for MoodGroup participants, which may partly account for its ability to predict therapeutic gain in the majority of the outcome variables at the conclusion of the intervention.

Avoidance. Contrary to the stated hypothesis, low levels of avoidance at post-treatment did not significantly predict treatment outcomes. This contrasts with findings from Kivlighan and Lilly (1997) who demonstrated that lowered avoidance scores from the mid-point of psychotherapeutic groups showed a larger relationship with therapeutic gain than higher levels of cohesion. However, this finding is consistent with that of Ogrodniczuk and Piper (2003) who demonstrated that avoidance was not significantly related to outcome in their gCBT intervention for complicated grief. Furthermore, Castonguay and colleagues (1998) reported that avoidance levels were higher in responders than non-responders in their group-based CBT intervention for binge-eating disorder. It is therefore evident that the relationship between avoidance and treatment outcome is complicated does not necessarily follow a linear path.

A number of explanations might account for the inability of low levels of avoidance in the final stage of the MoodGroup intervention to predict treatment outcome. According to Ogrodniczuk and Piper (2003), low levels of avoidance may be insufficient to influence outcome. In order to derive benefit, group members may have to do more than confront their issues and discuss them, they also have to work to change their behaviours. Additionally, Castonguay and colleagues (1998) propose that that the experience of negative emotional states like avoidance at some phase of the group development may be an intrinsic part of therapeutic change.

In addition to the above-described process variables, the CBT-based structure of the MoodGroup intervention may also account for this result. Ryum and colleagues (2009) explain that certain items on the Avoidance subscale of the GCQ may not be reflective of the therapeutic change responsibilities inherent in CBT interventions. For example, item 5 asks to what extent members of the group depend on the leader for direction. In psychodynamic therapies, higher scores would suggest avoidance of personal responsibility in the change process but in CBT, it is expected that the facilitator maintain a directive and active role. It is therefore important to take the therapeutic context into account when interpreting results.

Predictors of Six-Month Follow-Up Outcome

The hypothesis that treatment gains six months after the conclusion of the MoodGroup intervention would be predicted by higher ratings of engagement and reduced ratings of conflict and avoidance was partially supported. Reduced overall psychological distress and QoL improvements were predicted by higher ratings of engagement and reduced ratings of conflict. Furthermore, reduced avoidance ratings predicted reductions in depression and overall psychological distress, and improvements in QoL at six-month follow-up point.

The finding that higher ratings of engagement were strongly related to a favourable six-month follow-up outcome on the majority of outcome variables is consistent with the results of studies using the GCQ-S in non-psychiatric populations (Braaten, 1989; Kivlighan & Lilly, 1997; Kivlighan & Tarrant, 2001). It also extends findings from Ogrodniczuk and Piper (2003) and Ryum and colleagues (2009) who demonstrated that engagement is an important predictor for favourable long-term treatment outcomes in a gCBT intervention with clinical populations. Additionally, this finding is consistent with research conducted by Hand and colleagues (1974) who reported that individuals in groups for agoraphobia where cohesion had been encouraged showed significantly less fear and avoidance at the six-month follow-up despite there being no immediate differences in outcome amongst more and less cohesive groups at the conclusion of their intervention. This suggests that engagement may play an increasingly important role over time in determining therapeutic benefit.

Engagement reflects the amount of work and self-disclosure amongst group members and their attempts to understand the meaning of their behaviour. An environment that is characterised by high levels of engagement at the conclusion of the intervention could therefore likely serve as a catalyst for creating and maintaining therapeutic change after the intervention has concluded (Ogrodniczuk & Piper, 2003). Additionally, group members who perceive high levels of engagement in the final stages of their treatment program may be more motivated to continue with their treatment exercises after the intervention's conclusion (Hand et al., 1974). Participants may also have generalised these engaging behaviours to other areas of their live, thus building better relationships, which in turn may have influenced positively on their mental wellbeing.

The finding that both reduced ratings of conflict and avoidance are important predictors of long-term treatment gain were inconsistent with the results from Ryum and colleague's (2009) study. These authors found that neither of these group climate factors

significantly predicted favourable treatment outcome in their gCBT intervention for social phobia over the long-term. The reason for the discrepancy between these two studies are unclear, however one explanation may lie in the way in which the MoodGroup intervention was structured.

As mentioned previously, MoodGroup was structured differently to conventional CBT interventions in that group members were required to complete preparatory readings and home practice activities prior to their weekly session. This likely assisted group members to assume personal responsibility for their change behaviours, and is in direct opposition to avoidance behaviours. It is possible that this unique structure encouraged a sense of self-determination and self-efficacy in MoodGroup participants, which in turn may have assisted them to continue to assume responsibility for their change behaviours well after the conclusion of the intervention. Furthermore, this structure likely assisted MoodGroup members to acquire and utilise the skills taught in the intervention. According to Neimeyer and Feixas (1990), acquiring skills in this way is an important predictor of long-term therapeutic gain in cognitive treatments for depression.

Given the demonstrated importance of reduced conflict ratings in predicting post-treatment outcomes, it is perhaps unsurprising that reduced conflict ratings at the conclusion of the MoodGroup intervention predicted positive outcome in the majority of outcome variables at six-month follow-up. It is likely that the skills gained by MoodGroup members in managing conflict over the course of the intervention continued to assist them after its conclusion.

In conclusion, it is clear that perceptions of group climate were related to therapeutic outcomes, both following the conclusion of the online group intervention and over the longer-term. It is therefore important that therapists facilitating online groups work to establish an

environment where group members are active and engaged, as would be the case in face-to-face group work. As recommended by Ryum and colleagues, (2009) therapists should attempt to identify group members with low levels of engagement and assist them to become more involved in the group. Collecting data on perceptions of the group climate at the end of each session can assist with this. In online interventions, session transcripts are readily available. Therapists could review these transcripts as an additional means to identify group members who are poorly engaged. Once identified, efforts should be made to increase the engagement of these group members to maximise their therapeutic gains.

It is also important that online group therapists assist group members to manage conflict. Rather than being seen as undesirable, conflict should be promoted as an opportunity for group members to express their individual opinions, challenge the group and practice the assertive communication techniques they learn within the group. The results from this investigation indicate that managing conflict may be particularly important in determining both short and longer-term outcomes in online therapeutic groups. Online therapists should therefore work to establish a group climate whereby members feel equipped to face and resolve any conflict that may occur over the course of the intervention. Similarly, group members should be encouraged to take an active role in their change process, and assume personal responsibility for their change behaviours. Online group therapists should encourage their members to complete the assigned home practice activities and master the skills taught during the intervention as this will likely assist them to maintain their therapeutic gains in the future.

Limitations

This research contained a number of possible limitations, which limit the generalisability of the findings. The complex and manifold nature of the statistical analyses

increased the likelihood of making Type I errors, whereby differences were observed when they did not in fact exist. Furthermore, the relatively small sample size decreased the statistical power of the calculations. As such, it increased the probability of making Type II errors whereby differences existed but were not observed (Lindgren, Barber, & Sandahl, 2008).

It is possible that the high rate of attrition, which contributed to the small sample size, had an impact on the group climate variables. This investigation did not include provisions to measure the impact of attrition on group climate. It is therefore unclear whether the results would be similar were the sample more complete.

The use of change scores in regression analyses has been criticised as they are prone to biases resulting from regression towards the mean. Additionally, the differences between scores may not be as reliable as the scores themselves (Dimitrov & Rumrill, 2003). However, this assertion only holds merit if the pre and post-test scores have equal variances and reliability. As this was not the case with the MoodGroup scores, the reliability of the change scores is considered high and their use appropriate in the regression analysis (Dimitrov & Rumrill, 2003).

Perceptions of group climate were based on self-report alone, increasing the likelihood of a mono-method bias (Campbell & Fiske, 1959). Future studies could employ the use of independent observers to review the session transcripts and assign group climate ratings. Additionally, the facilitators' perspective of the group climate could be included.

The frequency of data collection may pose another limitation. In this investigation, group climate data were collected fortnightly, which limits the ability to make direct comparisons to studies collecting weekly group climate ratings. Furthermore, fortnightly measurements may not be sensitive enough to capture fluctuations in group climate within

that period. However, Bonsaksen and colleagues (2011) believe that fortnightly measurements accurately depict perceptions of group climate. Furthermore, obtaining these data at fortnightly rather than weekly intervals reduced the burden on participants to participate in data collection.

A final potential limitation of this investigation is that it did not examine therapeutic alliance or the collaborative part of the relationship between the facilitator and group members. Therapist variability may predict the development of alliance in group therapy, which in turn may influence therapeutic outcomes (Bakali, Wilberg, Hagtvet, & Lorentzen, 2010). Currently, no research exists on therapeutic alliance and online therapeutic groups. It is therefore recommended that future studies examine this relationship and its impact on therapeutic outcomes.

Conclusions

This investigation addressed the second research question posed in this thesis. It aimed to examine the development of group climate trends in an online gCBT intervention for depression and examine their ability to predict therapeutic outcome both immediately after the conclusion of the intervention and over the long-term. The findings of this investigation demonstrate that group processes online develop similarly to those observed in successful face-to-face gCBT interventions. This research additionally demonstrated that group climate variables play an important role in predicting both short and long-term outcomes in an online gCBT intervention for depression. Although further research is needed to replicate these results and address some of the limitations of this investigation, these findings support the use of online group therapy interventions as a viable alternative to face-to-face group treatments. The following chapter will address the third research question through an examination of MoodGroup's onset of response trends.

Chapter 6: Onset of Response Trends

Chapter Overview

Little is known about the mechanism of change or course of response for individuals receiving online gCBT for depression. This information may help to distinguish who is better suited for online group therapy and guide decisions related to the optimal length of the intervention. This chapter examines the onset of improvement for individuals receiving the MoodGroup intervention in order to further this knowledge. The introduction presents an overview of the importance of examining the timing of onset of response in a novel type of therapy. This investigation had three aims. The first aim was to explore the onset of improvement in the MoodGroup intervention. The second aim was to examine the relationship between onset of improvement and post-treatment and longer-term outcomes. The third aimed to explore participant characteristics that differentiate between those who do and do not experience early improvement. A description of the methodology follows the description of these aims. An analysis of results is then presented; which is followed by an interpretation of findings. The limitations and implications for further research are discussed. This chapter addresses the third research question posed in this thesis by comparing online and face-to-face onset of response trends and analysing whether the onset of early improvement can predict therapeutic gains.

Background

There remains relatively little research into the mechanisms of change and the course of recovery for those receiving CBT for depression. As CBT is not equally effective for all individuals it may prove useful to investigate the course of recovery for individuals receiving CBT and examine the factors associated with differential responsiveness to the treatment to establish who is most likely to benefit from this therapeutic modality (Fennell & Teasdale,

1987). Furthermore, identifying variables that are predictive of outcome enhances understanding regarding the interaction between client characteristics and treatment outcomes (Beckham, 1989). This is particularly important with a new type of treatment like online gCBT as the novel mode of delivery adds further variables that may influence who best responds to treatment.

Dose-response analysis is a useful technique to measure the onset of recovery. Originally used in the biological sciences, and in particular with pharmacology, to consider the impact of varying doses of a treatment on a target response variable, this technique has been successfully adapted within psychotherapy outcome research to demonstrate when improvement in psychotherapy is likely to occur. A dose in psychotherapy is typically defined as a session of therapy (Hansen, Lambert, & Forman, 2002). According to Howard, Kopta, Krause, and Orlinsky (1986), this is a naturally quantifiable unit of measurement allowing comparisons across different types of therapies. In this context, the number of sessions is related to exposure to the active ingredient of treatment. A response is defined as whether a particular outcome has occurred, as measured by an accepted outcome measure. Response can be measured by the percentage of symptom reduction (Howard et al., 1986).

Three key terms are important to consider when discussing the percentage of symptom reduction. *Improvement* is defined as a 20% reduction in symptoms (Tadić et al., 2010), a figure that is considered to represent a meaningful and reliably observable change in clinical status (Szegedi et al., 2003). *Treatment response* occurs when individuals experience a 33.33% or greater reduction in symptoms at post-treatment (Murphy, Simons, Wetzel, & Lustman, 1984). At the end of an intervention, individuals can therefore experience improvement without demonstrating a treatment response. *Stability of response* occurs when, during the course of their intervention, participants achieve symptom reductions greater than or equal to 33.33% of their baseline scores and maintain these at post-treatment (Tadić et al.,

2010). According to Tadić and colleagues, stability of response is more useful to consider than treatment response as it represents more enduring change. Furthermore, these authors state that, when examining onset of response trends, it is important to consider both improvement and stability of response, as early improvement may predict later stability of response. Additionally, treatment response may not occur when early improvement does not occur (Szegedi et al., 2003).

In psychological research, it is common to measure the impact of treatment using indices of clinically significance and reliable changes. This methodology is considered particularly useful in clinical trials to distinguish a positive treatment response (Hansen et al., 2002). However, in the context of examining course of recovery and mechanism of change, measuring the percentage of symptom reduction has a number of advantages over clinical significance methodology. Calculating percentage of symptom reduction permits more flexible and fine-grained analyses as it enables the determination of symptom improvement in addition to treatment response and stability of response. As will shortly be demonstrated, this is important as improvement attained early in the course of therapy is associated with positive treatment outcomes. Furthermore, the stringent nature of the clinical significance criterion makes it impractical for use with individuals with chronic or severe presentations as they are unlikely to meet these criteria (Hansen et al., 2002).

In face-to-face CBT, it is well established that the majority of symptom improvement occurs within the first four therapeutic sessions, and that this pattern of early improvement is associated with improved outcomes at post-treatment and follow-up (Fennell & Teasdale, 1987). A number of studies that provided CBT at the rate of one session per week have demonstrated that more than 50% of total improvement scores on depression rating scales for individuals receiving CBT occur within the first three weeks of therapy (Mandell 1987; Murphy et al., 1984; Rush, Kovacs, Beck Weissenburger, & Hollon, 1981).   These studies

also demonstrated that 70-80% of total improvement occurred by the fourth week of treatment, which is similar to the findings of Blackburn and Bishop (1983) who demonstrated that 60% of total symptom reduction occurred within this four week time period. Ilardi and Craighead (1994) investigated seven outcome trials that reported mean depression ratings and concluded that the mean proportion of overall symptomatic improvement within the fourth week of CBT-based treatment was 63.50% ($n = 167$). Thus, it is clear that individuals receiving CBT interventions for depression typically experience marked symptom reductions in the initial treatment stages.

Additionally, a number of studies have established that this pattern of early improvement is predictive of outcome at post-treatment and follow-up. Beckham (1989) demonstrated that for individuals with mild to moderate depression, participant response at the end of the first treatment session was predictive of both early and final response. Fennell and Teasdale (1987) found that symptom improvements between baseline and their third therapeutic session correlated significantly with symptom improvement over the course of their CBT-based treatment intervention for depression. Van et al. (2008) established that not only was there a relationship between early treatment improvement and final outcome, but that a lack of early improvement was associated with overall lack of treatment response. Renaud and colleagues (1998) demonstrated that early patterns of treatment response were associated with improved long-term outcomes. Additionally, van Calker and colleagues (2009), Tadić and colleagues (2010), Keller and Hautzinger (2007) and Percevic, Lambert, and Kordy (2006) all demonstrated that early improvement in CBT-based interventions for depression were highly sensitive predictors for later stable response and remission.

Establishing the course of treatment response has a number of clinical implications. Dividing treatment recipients into early improver and non-early improver categories allows for the investigation of factors associated with differential responsiveness to treatment

(Fennell & Teasdale, 1987). This can guide decisions related to who is most likely to derive benefit from a treatment intervention, which is particularly important when selecting candidates for a new type of therapeutic modality like online group therapy. Additionally, using patterns of early improvement as predictors of treatment outcome could enable clinicians to shorten the duration of unsuccessful treatments (Van et al., 2008), re-evaluate strategies for non-responders and develop different treatment approaches (Percevic et al., 2006; Tadić et al., 2010). Knowing the anticipated course of recovery can also help to guide treatment expectations for participants and inform decisions related to the optimal number of treatment sessions required to bring about meaningful improvement. As research into the course of recovery for online gCBT interventions has not been published, little is known about the pattern of improvement and the associated characteristics for those who demonstrate improvement in this novel treatment modality.

The research outlined above clearly demonstrates the association between early improvement and immediate and longer-term therapeutic gains. However, differences in the literature exist regarding the timeframes associated with early improvement. For example, for an eight session CBT intervention, Fennell and Teasdale (1987) classify early improvement as improvement that occurs by the fourth treatment session whilst Tadić and colleagues (2010) classified early improvement as occurring within the second treatment session for a ten session CBT intervention. In this present investigation, early improvement is defined as MDI or DASS-D symptom reductions ≥20% compared with baseline by the fourth week of active treatment. For the sake of completeness however, this investigation will examine improvement that occurs at both the second and fourth week of active treatment.

Research Aims and Hypotheses

This investigation aimed to explore the onset of improvement for individuals receiving the 9-week, online gCBT MoodGroup intervention. Research into face-to-face CBT interventions consistently demonstrates that the majority of depression symptom improvement occurs within the first four weeks of treatment. It was therefore hypothesised that the majority of MoodGroup participants would demonstrate improvement, or reductions of 20% or more compared with baseline in their depressive symptoms by the fourth week of therapy.

An additional aim of this investigation was to determine whether early onset of improvement was associated with therapeutic benefit at post-treatment and six-month follow-up. Consistent with the criteria used by Fennell and Teasdale (1987), *early improvement* in the MoodGroup intervention was defined as improvement that occurred by the fourth therapeutic session. For the sake of completeness however, this investigation will also examine improvement that occurred at the second week of active treatment.

Research into face-to-face CBT-based interventions for depression has consistently demonstrated that early improvement is associated with immediate and longer-term benefits. It was therefore hypothesised that early onset of improvement in the MoodGroup intervention would predict stability of response at post-treatment (*stable response)* and maintenance of improvement at six-month follow-up (*maintenance*).

This investigation further aimed to conduct an exploratory analysis to determine whether any differences in demographic, internet-use and baseline characteristics existed for early improvers and non-early improvers in the MoodGroup intervention.

Methodology

This investigation formed part of the larger research study evaluating the efficacy of the MoodGroup intervention. Chapter 4 (pp. 123-125) details the research ethics, recruitment of participants and inclusion criteria.

Participants

The participants for this investigation were the same 57 individuals described in Chapter 4 who met the inclusion criteria and were assigned to participate in the treatment arm of the MoodGroup intervention. Of these 57 individuals, 38 commenced a MoodGroup. The CONSORT diagram (Figure 3, p126) in Chapter 4 depicts the flow of these participants through the research. A summary of the demographic and internet-use characteristics of the participants who commenced a MoodGroup is provided in Table 17, Chapter 5, p.183.

Measures

MoodGroup participants were requested to complete online outcome measure questionnaires at fortnightly intervals from the first to the ninth (final) week of their intervention. Thereafter they were requested to complete follow-up questionnaires one, three and six months after completing the MoodGroup intervention. The first active therapeutic session occurred in the second week of the MoodGroup intervention, as the first week was an introduction and orientation session. Therefore, the online questionnaires administered in the third and fifth week of the intervention captured outcome data for the second and fourth week of active treatment. The full battery of outcome measures, as described in Chapter 4, was administered at each time point; however only the MDI and DASS-D were used as outcome measures for this investigation. Chapter 4 (pp 130-131) provides a detailed description of these outcome measurements and their psychometric properties. The questionnaire response rate is provided in Table 18 in Chapter 5 (p185).

Statistical Analysis

The raw data were imported from Qualtrics, the online questionnaire software used in the research project, into Microsoft Excel. Where required, data were reverse-scored and subscale scores calculated. Once this was completed, the data were imported into SPSS version 21 where it was cleaned and screened prior to undergoing statistical analysis. As the questionnaires were completed online in a forced-choice format, there were no missing data.

Assumption Testing

As described in Chapter 4 (p.136), the MDI and DASS-D met the assumptions of normality and homogeneity of variance.

Overview of Analyses

Three sets of analyses were used to examine the data in relation to the three research aims. The first determined the pattern of response for the MoodGroup intervention. The second analysis investigated the predictive value of early improvement. The third analysis examined the pre-treatment characteristics of the participants to determine if differences existed between those who did and did not experience early improvement.

Pattern of response. The percentage of participants who achieved 20% or more reductions in their symptoms at each time point was calculated. Participants were classified as early improvers if their outcome measure scores after second or the fourth active week of therapy were equal to or greater than a 20% reduction in their baseline scores. The percentage of participants defined as early improvers was then calculated. Participants were classified as stable responders if they achieved symptom reductions greater than or equal to 33.33% of their baseline scores during the intervention and maintained these at post-treatment. At six-month follow-up, participants were classified as maintaining improvement

if their follow-up scores were equal to or greater than 20% symptom reduction of their baseline scores on the outcome variables.

Predictive value of early improvement. Sensitivity, specificity, positive predictive value (PPV) and negative predictive value (NPV) were calculated to determine whether early improvement was predictive of stability of response at post-treatment (*stable response)* and maintenance of improvement at six-month follow-up (*maintenance*). For the purpose of these analyses, true positive was defined as early improvement and stable response/maintenance, true negative as neither early improvement nor stable response/maintenance, false positive as early improvement without stable response/maintenance and false negative as stable response/maintenance without early improvement. PPV was defined as the chance that the criterion (stable response/maintenance) is fulfilled if the predictor (early improvement) is positive. Similarly, NPV was defined as the chance that the criterion (stable response/maintenance) is not fulfilled if the predictor (early improvement) is negative.

Outcomes of early improvement. Odds ratios (ORs) examined the outcomes at post-treatment and follow-up for participants with and without early improvement. The ORs for achieving favourable outcomes for participants who demonstrated early improvement were compared with those who did not demonstrate early improvement.

Early improver characteristics. The demographic, internet-use and baseline characteristics of the early versus non-early improvers were compared using one-way ANOVAS and chi-squared analyses to determine any significant differences between these two groups.

Results

The results of the analyses are presented in four sections: pattern of response, predictive value of early improvement, outcomes of early improvement and characteristics related to differential rates of response.

Pattern of Response

The criterion of improvement was defined as a 20% reduction of baseline scores for the outcome variables, namely the MDI and DASS-D. The improvement criterion on the MDI was achieved by 48% of participants at or before the second week of active therapy. Within this same timeframe, 56% of participants achieved this criterion on the DASS-D. However, as indicated in Figure 9, these improvements were not necessarily maintained. For example, in week 4 only 43.8% and 39.1% of participants achieved the improvement criteria for the MDI and DASS-D respectively. These findings highlight the importance of examining stability of response rather than improvement at a moment in time. Figure 9 provides a visual representation of the percentage of participants who achieved the improvement criteria at each time point.
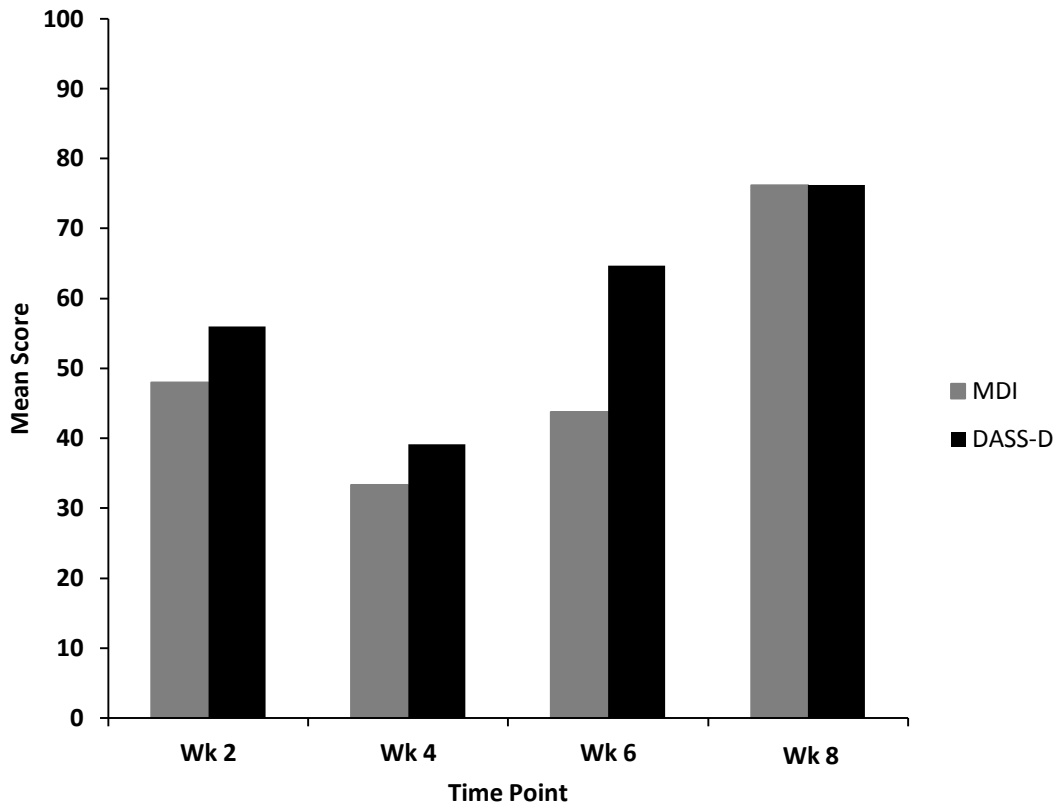
Figure 9. Percentage of participants demonstrating improvement in the outcome measures across time. Improvement defined as MDI or DASS-D score reductions ≥ 20% compared with baseline. DASS-D = Depression subscale of the Depression Anxiety Stress Scale 21 (Lovibond & Lovibond, 1993);MDI = Major Depression Inventory (Bech, 1997).

At post-treatment, stable response on the MDI was achieved by 44.5% of the participants, just under 25% of whom achieved this in week 2. Stable response on the DASS-D was achieved by 42.8% of participants, 7.1% of whom achieved this in week 2, 25% in week 4 and 10.7% in week 6. Figure 10 demonstrates the percentage of participants who achieved a stable response on both of outcome measures at weeks two, four or six. This figure also provides the percentage of participants who did not achieve stable response at post-treatment.
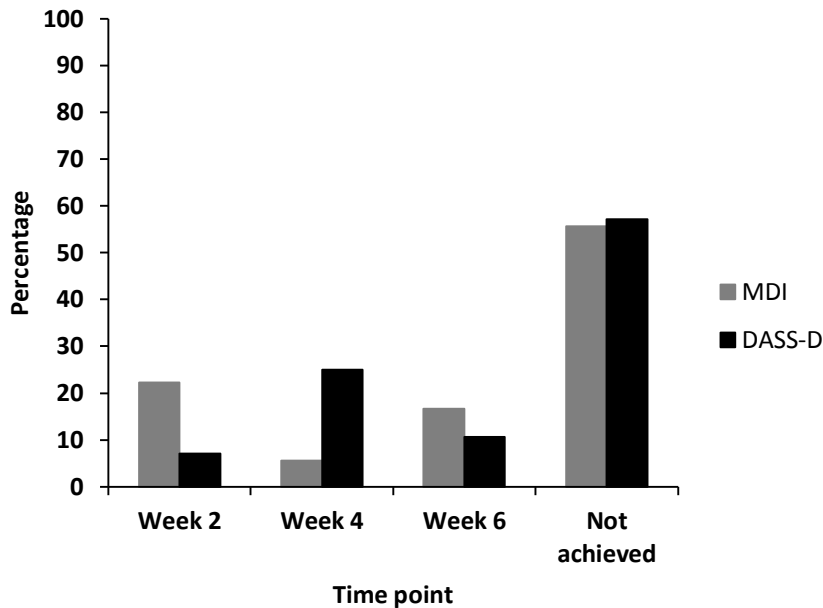
Figure 10. Percentage of participants who achieved stability of response at each time point. Stable response was defined as MDI or DASS-D score reductions ≥ 33.3% achieved at a time point during the intervention and maintained at post-treatment. DASS-D = Depression subscale of the Depression Anxiety Stress Scale 21 (Lovibond & Lovibond, 1993); MDI = Major Depression Inventory (Bech, 1997). Not achieved = percentage of participants who did not achieve response stability.

Predictive Value of Early Improvement

Table 22 provides a summary of the predictive values of early improvement for the treatment outcomes; namely post-treatment stable response (*stable response)* and six-month follow-up improvement (*maintenance*). Consistent with Tadić and colleagues (2010), sensitivity or specificity was defined as being high when values exceeded 70%.

Sensitivity. Improvement on the DASS-D in the second week of treatment was a highly sensitive predictor of stable response and maintenance (range: 72.73-75%). Improvement on the MDI within this period was a moderately sensitive predictor of these treatment outcomes (range: 54.55-57.14%). Additionally, the MDI and DASS-D were moderately sensitive predictors of stable response (57.14-60%) when improvement within the fourth week of treatment was achieved.

Specificity. When improvement was achieved within the second week of treatment, specificity for stable response and maintenance was moderate to high (range: 57.14-83.33%). When improvement in the fourth week of treatment was achieved, specificity for both stable response and maintenance was high for both outcome measures (range: 75.00-90%).

PPV and NPV. For both outcome measures, PPV (range: 66.67-80%) was higher than NPV (range: 54.55-75%) for stable response and maintenance when improvement in the fourth week of treatment was achieved. PPV was also higher than NPV for maintenance when improvement on the MDI was achieved in the second week of treatment. However, during this same time point, NPV was higher than PPV on both treatment outcomes for stable response, and equal on the DASS-D.

Outcomes of Early Improvement

The outcomes of participants with and without early improvement were further examined using ORs. For both stable response and maintenance, a favourable outcome was more likely when early improvement at both time points was demonstrated. These results indicate that when individuals achieve improvement by the fourth week of treatment they are far more likely to achieve and maintain therapeutic benefits than those who did not achieve early improvement.

Early Improver Characteristics

For each outcome variable, participants were divided into two groups: those who achieved early improvement by the fourth week of treatment (*early improvers*) and those who did not (*non-early improvers*). The baseline variables for these groups were compared using ANOVAs and chi-square cross tabulation to determine if there were any differences between them. Table 23 provides an overview of these comparisons.

Table 22

Indices of Predictive Values of Early Improvement for Stable Response and Maintenance

	Stable response											
	Week 2						Week 4					
Measure	Sensitivity	Specificity	PPV	NPV	OR (95% CI)	*d*	Sensitivity	Specificity	PPV	NPV	OR (95% CI)	*d*
MDI	57.14%	60.00%	50.00%	66.67%	2.00 (0.28-14.20)	0.4	57.14%	90.00%	80.00%	75.00%	12 (0.94-153.89)	1.37
DASS-D	72.73%	57.14%	57.14%	72.73%	3.57 (0.65-19.41)	0.70	60.00%	83.33%	75.00%	71.43%	7.5 (1.04-54.11)	1.11
	Maintenance											
	Week 2						Week 4					
Measure	Sensitivity	Specificity	PPV	NPV	OR (95% CI)	*d*	Sensitivity	Specificity	PPV	NPV	OR (95% CI)	*d*
MDI	54.55%	83.33%	85.71%	50.00%	6.00 (0.51-69.75)	0.99	33.33%	83.33%	80.00%	38.46%	2.5 (0.21-29.26)	0.51
DASS-D	75.00%	75.00%	75.00%	75.00%	9 (0.93-86.52)	1.21	44.44%	75.00%	66.67%	54.55%	2.4 (0.30-19.04)	0.48

Note. Stable response = symptom reductions ≥33.33% of baseline outcome measure scores achieved during the intervention and maintained at post=treatment. Maintenance = symptom reduction at six-month follow-up ≥ 20% of baseline outcome measures scores. PPV = positive predictive value; NPV = negative predictive value ;CI= confidence intervals; *d* = Cohen's *d;* DASS-D =Depression Anxiety Stress Scale 21 Depression Subscale (Lovibond & Lovibond, 1993); MDI = Major Depression Inventory (Bech, 1997); OR = odds ratio;

Table 23

Characteristics of Early and Non-Early Improvers

	MDI					DASS-D				
	Early improvers (*n* =16)	Non-improvers (*n* =13)	F	χ^2	p	Early improvers (*n* = 18)	Non-early improvers (*n* =9)	F	χ^2	p
Gender			-	0.06	.81			-	0.12	.73
Female	13 (81.3%)	11 (84.6%)				15 (83.3%)	7 (77.8%)			
Male	3 (18.8%)	2 (15.4%)				3 (16.7%)	2 (22.2%)			
Age			1.39	-	.26			1.12	-	.30
M (SD)	35.50(11.50)	38.31(13.88)				38.06(13.23)	32.67(10.94)			
Range	19-54	20-64				19-60	20-50			
Education			-	0.66	.88			-	4.93	.18
High school	4 (26.7%)	5 (38.5%)				4 (23.5%)	4 (44.4%)			
Certificate qualification	1(6.7%)	1 (7.7%)				0 (0.0%)	1 (11.1%)			
University degree	8 (53.3%)	5 (38.5%)				9 (52.9%)	4 (44.4%)			
Postgraduate qualification	2(13.3%)	2 (15.4%)				4 (23.5%)	0 (0.0%)			
Employment			-	1.78	.62			-	0.43	.93
Unemployed	3 (18.8%)	5 (38.5%)				5 (27.8%)	2 (22.2%)			
Student	5 (31.3%)	2 (15.4%)				4 (22.2%)	2 (22.2%)			
Casual /part-time	4 (25.0%)	3 (23.1%)				4 (22.2%)	3 (33.3%)			
Full-time	4 (25.0%)	3 (23.1%)				5 (27.8%)	2 (22.2%)			
Hours per day of internet use			-	2.89	.24			-	1.69	.43
1-5	8 (50.0%)	9 (69.2%)				10 (55.6%)	6 (66.7%)			
5-10	5 (31.3%)	4 (30.8%)				5 (27.8%)	3 (33.3%)			
10-15	3 (18.8%)	0 (0.0%)				3 (16.7%)	0 (0.0%)			

	MDI					DASS-D				
	Early improvers (*n* =16)	Non-improvers (*n* =13)	F	χ^2	p	Early improvers (*n* = 18)	Non-early improvers (*n* =9)	F	χ^2	p
Confidence of internet use			-	7.51	.11			-	6.26	.04
Somewhat confident	1 (6.3%)	0 (0.0%)				1 (5.6%)	0 (0.0%)			
Confident	2 (12.5%)	5 (38.5%)				1 (5.6%)	4 (44.4%)			
Very confident	13 (81.3%)	8 (61.5%)				16 (88.9%)	5 (55.6%)			
Internet years			1.76	-	.56			4.18	-	.05
M (SD)	13.75 (3.61)	11.85 (4.12)				14.06(3.80)	10.89(3.79)			
Range	8-20	5-20				8-20	5-15			
Current treatment			-	2.15	.71			-	5.34	.26
Nothing	4 (25.0%)	3 (23.1%)				4 (22.2%)	3 (33.3%)			
Medication	3 (18.8%)	4 (30.8%)				3 (16.7%)	3 (33.3%)			
Psychotherapy	2 (12.5%)	1 (7.7%)				3 (16.7%)	0 (0.0%)			
Combined	7 (43.8%)	4 (30.8%)				8 (44.8%)	2 (22.2%)			
Other	0 (0.0%)	1 (7.7.%)				0 (0.0%)	1 (11.1%)			
Baseline outcome measures										
MDI [*M (SD)*]	26.63 (8.95)	26.69(10.67)	0.00	-	.99	25.56(9.20)	26.89(10.88)	0.11	-	.74
DASS-T [*M (SD)*]	23.46 (5.86)	21.38 (5.93)	3.62	-	.07	48.67(23.06)	58.44(22.78)	1.09	-	.31
DASS-D [*M (SD)*]	19.50 (9.65)	23.38 (7.22)	1.44	-	.24	21.11(9.73)	20.67(7.81)	0.01	-	.91
DASS-A [*M (SD)*]	10.38 (9.47)	16.62(10.15)	2.92	-	.10	10.11(8.50)	16.44(10.99)	2.74	-	.11
DASS-S [*M (SD)*]	16.88 (9.12)	22.77 (6.81)	3.73	-	.06	17.44(8.99)	21.33(5.91)	1.37	-	.25
QOLI [*M (SD)*]	32.44 (7.58)	26.39 (7.54)	4.59	-	.04	31.28(8.31)	27.78(7.89)	1.10	-	.30
BADS-T [*M (SD)*]	69.38(24.33)	68.00(18.29)	0.03	-	.87	67.78(23.32)	68.67(19.16)	0.01	-	.92
DAS-SF1 [*M (SD)*]	2.59 (0.74)	2.40 (0.56)	0.51	-	.48	2.57(0.69)	2.29(0.56)	1.10	-	.31

Note: BADS-T = Behavioral Activation for Depression Scale (Kanter et al., 2007); DAS-SF1 = Dysfunctional Attitudes Scale- Short Form 1 (Beevers et al., 2007) DASS-A = Depression Anxiety Stress Scale 21 Anxiety Subscale (Lovibond & Lovibond, 1993); DASS-D = Depression Anxiety Stress Scale 21 Depression Subscale (Lovibond & Lovibond, 1993); DASS-S = Depression Anxiety Stress Scale 21 Anxiety Subscale (Lovibond & Lovibond, 1993); DASS-T = Depression Anxiety Stress Scale 21 Total (Lovibond & Lovibond, 1993); early improvers = participants who, within the fourth active week of treatment, achieved symptom reductions ≥ 20% of baseline score. MDI = Major Depression Inventory (Bech, 1997); non-early achievers = participants who failed to achieve symptom reductions of ≥ 20% of baseline score within the fourth week of treatment. QOLI-S = Quality of Life Inventory-Shortened (Frisch 1994).

For the MDI and DASS-D, an analysis of the demographic variables revealed no significant differences between early and non-early improvers on age, gender, education, and employment status.

For the most part, the internet behaviour of the early and non-early improvers was similar. For the MDI and DASS-D no significant differences existed on number of years using the internet or hours per day spent on the internet. There were no significant differences between these two groups in level of confidence in using the internet for the MDI. However, a significant difference between the early and non-early improvers in internet confidence emerged on the DASS-D, with early improvers being more likely to rate themselves as "very confident" when compared with non-early improvers.

The two groups did not differ significantly in the type of treatment they were using at baseline. Regarding baseline outcome measures, early and non-early improvers on the MDI differed significantly on their baseline QoL scores. Analysis of the descriptive characteristics of these differences revealed that the mean QoL scores were lower for non-early improvers (*M*= 26.39, *SD* = 7.54) than early improvers (*M*= 32.44, *SD* = 7.58). No other significant difference between the two groups was found on their baseline measures.

Discussion

This chapter investigated the patterns of response to MoodGroup. It was hypothesised that the majority of MoodGroup participants would demonstrate reductions of 20% or more in their depressive symptoms by the fourth active week of therapy. It was further hypothesised that early onset of improvement in the MoodGroup intervention would predict favourable outcomes at post-treatment and six-month follow-up. An additional aim of this investigation was to explore whether any differences in demographic, internet-use and baseline characteristics existed for early improvers and non-early improvers in the

MoodGroup intervention. The following section discusses the findings from the hypotheses and research questions, the research limitations and the clinical implications of these findings.

Pattern of Response

The hypothesis that the majority of MoodGroup participants would demonstrate improvement, as defined by a decrease of ≥20% of the baseline MDI or DASS-D scores, by the fourth active week of therapy was supported. For the MDI, 57.14% of MoodGroup participants demonstrated improvement by the fourth active week of treatment and 64.29% of MoodGroup participants demonstrated improvement within this timeframe on the DASS-D. Additionally, these findings demonstrated that stability of treatment response is likely to occur within the first four weeks of active treatment.

These results are similar to the findings from Tadic and colleagues (2010) who demonstrated that 49% of participants receiving a face-to-face CBT intervention demonstrated improvement by the second week of therapy. These authors concluded that early improvement occurs in a high percentage of individuals with depression in receipt of CBT. These results are also consistent with the findings from a meta-analysis of the course of symptom improvement in CBT-based interventions for depression conducted by Ilardi and Craighead (1994) who concluded that the majority of symptom improvement occurs within the first four treatment sessions. Taken together, these results suggest that the pattern of early improvement in an online group-based CBT intervention for depression is similar to those observed in individual, face-to-face treatments.

A number of possible explanations exist to explain this response pattern. According to Fennell and Teasdale (1987), the presentation of a credible, lucid treatment rationale in the initial stage of therapy likely leads to early symptom improvement as it fosters a collaborative relationship and the generation of positive treatment expectancies. These authors

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demonstrated that the degree to which individuals endorse the treatment rationale in the beginning of therapy strongly predicts treatment response over the first two weeks of therapy and overall treatment response. The initial MoodGroup sessions are primarily devoted to developing a sense of familiarity and collaboration between participants and outlining the treatment rationale and expectancies for participation. The CBT-paradigm is introduced and described in detail and participants are familiarised with the relationship between thoughts, behaviours and mood. Furthermore, as part of these initial sessions, participants are required to develop individual and group-based treatment goals. This is likely to foster a sense of hopefulness and diminish feelings of helplessness. Participants are also made aware of the need for them to take an active role in the therapeutic process, which likely contributes to their treatment expectations. These sessions provide a clear treatment rationale, which also likely contributes to the pattern of early symptom improvement demonstrated by participants.

Fennell and Teasdale (1987) further suggest that the extent to which individuals accept the CBT model and actively engage with the homework activities contributes to the pattern of response to treatment. These authors demonstrated that individuals who embraced the cognitive conceptualisation and experienced success testing it out during homework activities were more likely to experience early improvement and maintain treatment gains than individuals who did not readily accept the model and its associated home practice tasks. These authors concluded that merely presenting the model was not sufficient to bring about early improvement. In order for rapid reductions in depression to occur, individuals needed to accept the model presented to them and experience early success with its associated homework activities. Participants in the MoodGroup intervention were given the opportunity to engage in homework activities from the first week of active treatment. This provided them with the chance to have the model validated through the experience of early success. The methodology employed within the current investigation did not however include a

measurement of how readily participants accepted the CBT framework. It is therefore not possible to determine the association between endorsement of the model and early improvement within this intervention. It is likely that the factors described by Fennell and Teasdale contributed to early improvement in the MoodGroup intervention. However, further research is required to test this assertion empirically.

There are two contrasting theories explaining the mechanism of change in early response to CBT-based interventions for depression. The first suggests that cognitive modifications and resulting decreases in depressogenic thought processes are responsible for rapid improvement (Tang & DeRubeis, 1999). The second theory suggests that early response occurs as a result of non-specific therapeutic factors such as the provision of a sound treatment rationale, enhanced hope for recovery and increased positive treatment expectancies (Frank, 1973; Ilardi & Craighead, 1994). Ilardi and Craighead argue that non-specific therapeutic factors must be responsible for early change processes as typically, the first four weeks of CBT-based treatment includes little exposure to formal cognitive modification techniques. They assert that, in general, these sessions are devoted to laying the groundwork for implementing cognitive modifications by building therapeutic alliance, explaining the conceptual framework, and introducing behavioural change and thought-monitoring techniques. Consequently, it is unlikely that cognitive restructuring is responsible for early response to treatment. Tang and DeRubeis however argue that it is usual for CBT therapists to include cognitive restructuring from the second week of treatment.

Examination of the MoodGroup session content reveals that it is likely a combination of non-specific therapeutic factors and cognitive restructuring techniques contributed towards early response to treatment. In the first four active weeks of treatment, MoodGroup participants are exposed to goal-setting and problem-solving techniques and are assisted to make positive behavioural and lifestyle modifications. The CBT model is clearly explained

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and participants are given several opportunities to practice what they have learnt through homework activities. Throughout this period, there is a strong emphasis on fostering a collaborative therapeutic environment and instilling a sense of hope about recovery. These processes likely contribute to the non-specific therapeutic factors that Ilardi and Craighead (1984) attribute to early treatment response. However, within this time period, MoodGroup participants are also introduced to cognitive restructuring techniques that include identification of styles of distorted thinking and skills to overcome negative thinking. It is therefore reasonable to conclude that early improvement in the MoodGroup intervention is associated with both non-specific therapeutic factors and cognitive restructuring.

Predictive Value of Early Improvement

Sensitivity, specificity, PPV and NPV analyses were conducted to test the hypothesis that early onset of improvement in the MoodGroup intervention would predict treatment gains at post-treatment (stable response) and six-month follow-up (maintenance). For the purpose of this investigation, sensitivity was defined as the probability of achieving or maintaining treatment gains when early improvement was present; specificity was the probability of neither achieving nor maintaining treatment gains when early improvement was not present; PPV was the chance that the criterion (stable response) was fulfilled if the predictor (early improvement) was positive; and NPV was the chance that the criterion (stable response) was not fulfilled if the predictor (early improvement) was negative. Early improvement was defined as MDI or DASS-D symptom reductions ≥20% compared with baseline at weeks 2 or 4 of active treatment. Stable response was defined as MDI or DASS-D symptom reductions ≥33.33% compared with baseline that were achieved from the second active week of therapy onwards and maintained at post-treatment. Maintenance was defined as MDI or DASS-D symptom reductions ≥20% compared with baseline at six-month follow-up.

The hypothesis that early improvement would predict favourable post-treatment outcomes was partially supported. Early improvements on the MDI and DASS-D in the second week of treatment were found to be moderately to highly sensitive predictors of stable response and maintenance. Early improvement in the fourth week of active treatment on the MDI and DASS-D were moderately sensitive predictors of stable response but were not predictive of maintenance. It can therefore be concluded that the probability of achieving and maintaining favourable treatment gains is increased when early improvement is present, particularly when this improvement occurs within the second week of treatment.

Moderate to high specificity rates were demonstrated for both stable response and maintenance when early improvement in the second and fourth week of treatment was achieved. This indicates that the probability of achieving or maintaining favourable treatment outcomes is decreased when early improvement is absent. This finding provides additional support for the hypothesis that early improvement predicts treatment gains over the immediate and longer term.

For maintenance, PPVs were higher than or equal to NPVs for both outcome measures at weeks 2 and 4. This indicates that the presence of early improvement is associated with the maintenance of treatment gains. For stable response, PPVs were higher than NPVs for both outcome measures when improvement occurred within the second week of treatment. This demonstrates that early improvement achieved within this timeframe is predictive of obtaining stable treatment gains at post-treatment. However, when improvement occurred within the fourth week of treatment, the NPVs were higher than the PPVs for both outcome measures. This indicates that the absence of early improvement within this time frame is more predictive of a later inability to obtain stable treatment gains with continued treatment (Tadić et al., 2010). These findings lend further support to the hypothesis that the presence of early improvement is predictive of favourable treatment

outcomes. Additionally, these findings indicate that a lack of early improvement predicts an inability to maintain a stable treatment response throughout the intervention.

The OR analysis provided further support to the hypothesis that early improvement in the MoodGroup intervention was predictive of favourable treatment outcomes. The results from this analysis indicated that individuals who achieve improvement within the fourth active week of treatment were more likely to achieve and maintain treatment gains than those who did not achieve early improvement. Additionally, large to very large Cohen's d effect sizes for the ORs were observed when stable response on the DASS-D was achieved at week 2 and 4, when stable response on the MDI was achieved at week 4, and when maintenance on both the MDI and DASS-D was achieved by week 2. Taken together, the results from the sensitivity, specificity, PPV, NPV and OR analyses indicate that the probability of achieving and maintaining favourable treatment outcomes from the MoodGroup intervention in the immediate and longer-term is increased when early improvement occurs within the fourth week of treatment. Conversely, the absence of early improvement within this time frame is associated with a decreased probability of achieving favourable therapeutic outcomes.

Research into face-to-face CBT interventions for depression have consistently found early improvement to be associated with ongoing treatment gains (Beckham, 1989; Fennell & Teasdale, 1987; Tadić et al., 2010; van Calker et al., 2009; Van et al., 2008). The findings from the present investigation extend upon this body of research by demonstrating that early improvement in an online group-based setting predicts the achievement and maintenance of positive treatment outcomes.

Although much research exists to support the association between early improvement and favourable treatment gains, little is known about the mechanisms of action underlying this phenomenon. Beckham (1989) suggests that in the preliminary stages of therapy,

individuals may experience an initial positive response to the therapist, the therapeutic setting or even simply the decision to take action to treat their depression. This is considered a placebo response as it occurs without active therapeutic intervention. However, it may facilitate further therapeutic change and an ongoing therapeutic response that is maintained throughout the intervention. According to this theory, the occurrence of early positive experiences lays the foundation for ongoing treatment gains.

The MoodGroup intervention is structured in a manner to support this theory as it progresses in a stepwise fashion designed to maximise early success. According to Paterson (2006), it is easier for individuals to make behavioural rather than cognitive changes. Therefore, the behavioural components, such as goal-setting, positive lifestyle adaptations and stress reduction, were introduced within the first few weeks of the intervention. This capitalises on opportunities for participants to experience early success. Furthermore, it allows time to strengthen therapeutic alliance and group engagement, which would likely assist group members to manage the challenges presented during the more difficult cognitive components. Thus it is likely that the experience of early success motivated participants to continue to make positive changes, which in turn is associated with favourable treatment outcomes.

Clinical implications. Early improvement is not specific for stable response or maintenance as a number of participants improved within the first four weeks of treatment but did not go on to achieve or maintain favourable therapeutic outcomes. Likewise, some non-early improvers went on to achieve and maintain therapeutic benefits. However, it is clear that the lack of early response is a risk factor for poor treatment outcomes. This has a number of clinical implications.

Van and colleagues (2008) advise that a lack of early response to treatment be viewed as an early warning sign for clinicians to review their treatment strategies. The type of therapy may need to be re-evaluated with slow or non-responders. Individuals who have not obtained improvement may need to access secondary treatment or have their therapy increased until improvement occurs. Additionally, it may be necessary for clinicians to consider referral to a medical practitioner to supplement psychotherapy with psycho-pharmacology with early non-responders (Percevic et al., 2006). According to Tadić and colleagues (2010), the relationship between early improvement and therapeutic gains is so important that early and continued monitoring of treatment response is warranted. These authors recommend that all clinicians implement a weekly assessment of depression severity to identify early non-improvers and optimise their treatment strategy.

These results indicate that the bulk of therapeutic gains occur within the first four week of active treatment, and that only a minority of individuals who have not experienced early improvement are able to achieve or maintain positive treatment outcomes. This may have implications for the number of treatment sessions offered in an online group therapy program.

Research findings consistently demonstrate the efficacy of face-to-face interventions for depression lasting 10-12 weeks in duration. For example, McDermut and colleagues' (2001) meta-analysis of group therapy interventions for depression indicated that successful interventions contained an average of 19 treatment hours and lasted 12 or fewer sessions. However, there is also evidence to suggest that briefer interventions are capable of producing positive therapeutic outcomes. For example, Comas-Dias (1981) demonstrated significant treatment gains with a brief gCBT intervention lasting only five weeks. Deciding on the appropriate length of an intervention may therefore prove to be a difficult task. Cuijpers and colleagues (2008) provided insight into this topic by concluding that although increasing both

the number of sessions and therapeutic contact time significantly increases treatment effect sizes, face-to-face interventions that run for six weeks or more are also more likely to experience high rates of attrition. Given the high rates of attrition that occurred in the MoodGroup intervention and the pattern of early improvement, it seems reasonable to consider a shortened version of the intervention. Further research would however be needed to determine the relationship between the length of the MoodGroup intervention and its therapeutic outcomes.

The impact of early improvement on dropout rates should also be considered. It is well-established that individuals who do not experience improvement are likely to prematurely terminate their treatment (Rush, Beck, Kovacs, & Hollon, 1977). However, as demonstrated by the results of this investigation, lack of early improvement does not conclusively predict poor treatment outcomes. A small, but notable percentage of early non-improvers in the MoodGroup intervention went on to achieve and maintain treatment gains. According to Haas, Hill, Lambert, and Morrell (2002), individuals who demonstrate a slow treatment response are just as likely as early responders to maintain treatment gains at follow-up once improvement has been obtained. Therapeutic interventions can therefore be as effective for early and late improvers and as such, individuals who do not show signs of early improvement should be encouraged to continue their participation in the MoodGroup intervention.

In the same way that early non-improvement can influence premature treatment discontinuation, so too can early improvements. According to Pekarik (1992), approximately one-third of individuals who drop out of treatment do so because of perceived symptom improvement. Thus, it is possible that some individuals in the MoodGroup intervention who prematurely terminated their involvement in the program did so because they had achieved an early treatment response. Whilst this may seem like a satisfactory reason for leaving therapy,

drop out in group-based interventions should be discouraged as it disrupts the group

dynamics. Additionally, research indicates that individuals who drop out of a treatment

intervention fare worse over the long term when compared with treatment completers, even if

those individuals experienced significant symptom improvement prior to their treatment

termination (Pekarik, 1983a). It is therefore important to encourage the continued treatment

participation in individuals who may be contemplating premature termination because of

achieving early treatment improvements.

Early Responder Characteristics

The findings from this research indicate that confidence in one's ability to use the

internet and baseline QoL may differentiate those who do and do not experience early

improvement in an online group-based CBT intervention for depression. Each of these

findings will be discussed in turn.

Confidence in using the internet. The results indicated that individuals who

perceived themselves as being very confident internet users were more likely to achieve early

reductions in their depressive symptoms than those with lower levels of perceived

confidence. This finding holds intuitive appeal as it seems likely that individuals who are

comfortable with the internet and who master the technology will fare better in an online

group-based intervention than those who are less skilled. A search of the literature revealed

no published research on the relationship between perceptions of confidence in using the

internet and treatment outcome. However, research into perceptions of technological self-

efficacy and student performance in online courses consistently demonstrates that perceived

self-efficacy and favourable attitudes towards computers predicts positive performance

outcomes (Coffin & MacIntyre, 1999; Liaw, 2002; Wang & Newlin, 2002). Individuals who

display poor attitudes towards computers and low levels of confidence in using them are

likely to experience increased levels of anxiety during online tasks which in turn impairs their ability to learn and obtain successful outcomes (Sun, Tsai, Finger, Chen, & Yeh, 2008).

Care should be taken in the initial stages of an online group-based intervention to maximise the group members' feelings of confidence in using the technology. The introductory MoodGroup session attempted to achieve this by devoting a large part of the session to familiarising participants with the technology. At the end of this session it may however be helpful to assess the participants' levels of comfort in using the technology and provide further assistance to those individuals who indicate low levels of technological confidence. Additionally, prospective group members could be assessed on their confidence in using the internet as part of the overall application process. Those with low confidence in their perceived ability to use the internet could then be provided with additional assistance to raise their confidence in their ability to use the online medium. This may assist to improve the rates of early treatment response in individuals with lowered levels of perceived confidence in using the internet.

Quality of Life. The results indicated that individuals with higher baseline QoL score were more likely to achieve early reductions in their MDI-assessed depressive symptoms than those with lower baseline QoL scores. This appears to be a unique finding as a literature search revealed no studies that directly assessed the impact of baseline perceptions of QoL and treatment response. However, there is research on this relationship when facets of QoL such as overall functioning and social support are considered.

Adaptive functioning is an important component of QoL and, as such, individuals who experience functional impairment are likely to report lower than usual QoL scores (Singh et al., 2005). Therefore, studies investigating adaptive functioning and treatment

response may help to explain the relationship between QoL and treatment response that was observed in the MoodGroup intervention.

Ezquiaga, Garcia, Bravo, and Pallares (1998) examined psychosocial factors associated with remittance and non-response in pharmacological depression treatments. Results indicated that Global Assessment of Functioning (GAF) scores at baseline were markedly superior in individuals whose depression remitted six months after treatment than those who did not. Conversely, those who did not respond to treatment demonstrated lower GAF scores. This indicates that poor previous global functioning constitutes a risk for non-response to treatment for depression. Investigating the characteristics of individuals with treatment resistance, Dunner and colleagues (2006) reported that those with treatment resistance are more likely to experience substantial functional impairment when compared with treatment responders. Additionally, at baseline the subscale scores of the SF-36 Health Survey (Ware & Gandek, 1998), the QoL measurement used in the study, were well below those reported for other samples of individuals with non-treatment resistant depression as well as chronic medical conditions such as congestive heart failure. It was concluded that individuals who do not respond to depression treatments experience poor QoL.

These studies demonstrate the impact of QoL on overall depression treatment response. It is then perhaps unsurprising that individuals in the MoodGroup intervention who reported low QoL scores did not experience improvement within the first four weeks of active treatment. Perceptions of QoL clearly play an important role in determining treatment response. As such, it may be helpful to identify individuals who report low QoL scores at the beginning of a treatment intervention so that additional therapeutic strategies can be formulated to assist them to better respond to the treatment.

Social support is another important facet of QoL, with research indicating a linear relationship between these two variables. Thus, the more social support a person has, the better their QoL (Helgeson, 2003). Like overall functioning, social support has also been implicated in determining response to depression interventions. Vallejo, Gasto, Catalan, Bulbena, and Menchon (1991) reported that high levels of social support at baseline predicted early response to anti-depressants. Additionally, individuals with high levels of social support showed significantly greater reductions in depressive symptoms than those with low levels of social support at 6 weeks and 6 months. In examining rates of recovery for in-patients with depression, Veiel, Kuhner, Brill, and Ihle (1992) reported that significant differences existed between recovered and non-recovered individuals regarding their satisfaction with available support. Those who perceived themselves to have strong and satisfactory support networks were more likely to achieve recovery than those whose support networks were perceived to be less than ideal. Additionally, available crisis support from friends was found to be of clinical importance with the non-recovered having less support available to them. The impact of social support and, by extension, QoL, should therefore not be underestimated as it has the capacity to influence treatment outcomes.

Clearly, perceptions of QoL have the capacity to influence treatment response. As such, individuals who report low QoL scores at the start of the intervention should be flagged as being at risk of failing to demonstrate early improvement. However, it should be noted that participation in the MoodGroup intervention has been shown to significantly improve QoL ratings in its participants. This is perhaps unsurprising as the intervention contains many components designed to enhance QoL including problem-solving, realistic goal setting, stress management, adaptive thinking, assertiveness training and improvement in social functioning (Blake-Mortimer et al., 1999). Individuals with low baseline QoL scores are less likely to achieve early improvement, which may lead to them experiencing discouragement

and being at increased risk of dropping out of the intervention (Rush et al., 1977). However, ongoing participation in the intervention has the potential not just to reduce depressive symptoms but also to increase QoL. Thus, all efforts should be made to encourage these individuals to continue their participation in the intervention.

Limitations

The generalisability of the results of this investigation are impacted by a number of limitations. As noted in previous chapters, the high rate of attrition combined with the relatively small initial sample size meant that the research was underpowered. This increased the probability of making Type II errors whereby differences that existed were not observed (Lindgren et al., 2008). According to Nirenberg (2003), underpowered studies are particularly problematic with prediction analyses as there are insufficient participants to confidently state that potential predictor variables are not predictors. Underpowered analyses that reveal the absence of a significant relationship between the response and predictor variables only fail to reject the null hypothesis. They do not demonstrate that the predictor and outcome are unrelated.

The sample's pattern of participation also limits the generalisability of these results, as only those who completed the intervention responded to requests to complete follow-up outcome measures. Consequently, the post-treatment and six-month outcomes of individuals who did not complete the intervention are unknown. A substantial number of participants were therefore excluded from the analyses. This may have produced a selection bias towards those who believed that the intervention would be helpful and those who experienced favourable outcomes (Haas et al., 2002).

As this was an exploratory analysis, the findings on the characteristics of early and non-early improvers only provide an indication of potential hypotheses in future studies. These results therefore need to be interpreted with caution and followed-up in future research.

Additionally, a limited number of participant baseline characteristics that may be associated with different rates of improvement were examined in this chapter. Future studies could include a more comprehensive assessment by including variables such as degree of social impairment, motivation to change, homework compliance and degree of acceptance of the therapeutic framework (Van et al., 2008). Furthermore, this investigation did not examine therapeutic alliance. Relationship between client and therapist has been found to be a sensitive predictor of outcome in psychotherapy and is identifiable early in the treatment. Thus it is possible that the formation of a solid therapeutic alliance established in the initial stages of therapy is predictive of early therapeutic response (Krupnick et al., 1996). Future research on online interventions should examine early response in light of therapeutic alliance to determine if a superior therapeutic bond is associated with early response to treatment in online group-based interventions.

In this investigation, improvement was determined purely by self-ratings of symptoms. As such, there was no clinician input. Research into the concordance between self-report and clinicians' ratings of improvement with depression indicate that there is often relatively low concordance between clinical assessment and self-report during the acute phase of an episode, but that concordance improves at follow-up when most individuals have improved (Prusoff, Klerman, & Paykel, 1972). This investigation could therefore have been strengthened by the use of semi-structured interviews conducted by trained clinicians to assess progress.

The final limitation relates to dose-response research in general. Currently there is no standard definition of early improvement, treatment response and stable response. Some investigators use a percentage decrease of symptoms in outcome measures (e.g. 20% decrease on the MDI); others use threshold levels that are built into the scale (e.g.: score of 20 or less on the MDI indicates the absence of depression) and others use clinical significance calculations. This variability in response definitions means that individuals who are identified as responders under one definition may not meet criteria under another. Additionally, no standard methodology exists to examine patterns of response. Sensitivity and specificity calculations, logistic regression analyses, sequential sequestration and Bayesian models are all routinely used to investigate dose-response and predictors of treatment response. This makes it difficult to integrate different research reports and generalise findings, conclusions and clinical implications (Nierenberg, 2003).

Future Research

Much scope exists for future research on dose-response and characteristics of differential responders in online gCBT interventions. Listed below are recommendations for future research within this area.

Currently, little is known about the mechanism of change involved in early response to treatment, and two competing theories exist. The first suggests that changes in cognitive processes are responsible for early symptom reductions whilst the second theory suggests that it is non-specific therapeutic factors that bring about these early improvements. Understanding mechanisms of change is important as it can help guide decisions related to the content and delivery of future online therapeutic groups. Therefore, future research should examine whether specific CBT-techniques or non-specific therapeutic factors are implicated in early treatment response in online group-based interventions.

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The present investigation clearly demonstrates that the bulk of symptom improvement occurs within the first four active weeks of therapy in an online gCBT intervention for depression. Given the higher costs associated with longer treatment interventions, the characteristically high rate of attrition in online interventions and the efficacy of brief internet-based interventions for depression, it is reasonable to consider a shortened version of MoodGroup. However, this finding does not necessarily mean that a shortened version of MoodGroup would be effective, as it is possible that the first four sessions build a strong therapeutic foundation that is enhanced by additional sessions. Further research will therefore be required to determine the optimum length of the MoodGroup intervention and the benefits and disadvantages associated with longer and shorter interventions.

Currently, no information exists on the longer-term outcomes of individuals who dropped out of the MoodGroup intervention as all six-month follow-up data were collected from program completers. These data are important for several reasons. First, it will reduce the possibility of a selection bias towards those who believed that the intervention would be helpful and those who experienced favourable outcomes. Second, it would assist to determine the prognosis of early and non-early improvers who prematurely discontinue the intervention. For example, this data would help to clarify whether early improvers who do and do not drop out of the MoodGroup intervention achieve similar longer-term outcomes.

Future studies should also more comprehensively examine the baseline characteristics of participants in order to help establish predictors of early treatment improvement. QoL and levels of technological competence and familiarity should be examined in greater depth as the present research indicated that these variables were implicated in the achievement of early improvement. Additionally, it may be helpful to examine other characteristics thought to be associated with early improvement such as acceptance of the therapeutic framework, homework compliance and therapeutic alliance.

Summary and Conclusions

This investigation addressed the third research question posed in this thesis. It aimed to determine the pattern of response in the MoodGroup intervention and identify characteristics that may predict the achievement of early improvement. The findings of this investigation demonstrate that the pattern of response in the MoodGroup intervention is similar to those observed in face-to-face CBT interventions, with the majority of symptom improvement occurring within the first four active weeks of treatment. This investigation also demonstrated that the achievement of early improvement was predictive of immediate and longer-term therapeutic gains. Additionally, confidence in using the internet and baseline QoL were two participant characteristics that differentiated those who did and did not experience early treatment improvement.

The findings from this investigation have a number of clinical implications. Those who do not achieve early improvement are at risk of poor overall outcomes. Therefore, it is important that facilitators identify these individuals and adapt their treatment to maximise therapeutic gains. Facilitators may need to re-assess the suitability of these individuals' participation in online group therapy and refer them to other forms of intervention. These findings can also be used to educate participants about the anticipated trajectory of their treatment response. They can also be used to justify a shortened version of the intervention. Further research is clearly required to replicate the results from this investigation and to address some of its limitations. However, this research has provided valuable insight into the dose-response of an online gCBT intervention for depression and has contributed to the overall literature pertaining to treatment response in psychotherapeutic interventions. The following chapter will address the fourth and final research question by providing a mixed-methods analysis of the experiences of MoodGroup's key stakeholders.

Chapter 7: Participants' Experiences and Reflections of MoodGroup

Chapter Overview

The analyses described so far detailed changes in depressive symptoms and group climate processes over the MoodGroup intervention. However, in-depth qualitative insights into the online group experience have not been provided. These insights are important to support continuous improvement and guide changes to future versions of MoodGroup. This chapter therefore explores the MoodGroup experience from the perspectives of its major stakeholders, namely the group members, facilitators and clinical supervisor. It starts by describing the importance of obtaining these perspectives and provides an overview of usability studies in individually-based online interventions. It then describes the research conducted from the perspective of online therapists and clinical supervisors. The research aims, namely to obtain feedback and recommendations from MoodGroup's key stakeholders, are described, followed by an analysis and discussion of the results. The limitations of this investigation and recommendations for future versions of the MoodGroup intervention are described. This chapter addresses the fourth research question of this thesis by detailing what can be learnt from the experience of MoodGroup from the perspectives of its key stakeholders.

Background

Few studies have examined the acceptability of online interventions for depression and even fewer do so for online group interventions. With a novel form of treatment such as online gCBT, it is important to gain an understanding of stakeholders' expectations and experiences as this can assist to make improvements to the intervention, guide expectations for future participants and provide recommendations for similar interventions. Furthermore it

is important to understand how engaging in group therapy via a computer impacts upon therapeutic experiences (Beattie, Shaw, Kaur, & Kessler, 2009).

The quantitative analyses conducted thus far do not provide a detailed overview of the MoodGroup experience from its key stakeholders, namely the group members, facilitators and the clinical supervisor. This examination of stakeholder experience is best achieved through qualitative research. The findings from this research can be used to evaluate content and make changes to how information is presented. Additionally, this qualitative material provides an adjunctive information source to help explain and interpret results (Donovan et al., 2002). This integration of process and outcome data maximises the ability for results to be interpreted according to empirical evidence and enhances understandings related to the generalisability of the intervention (Oakley, Strange, Bonell, Allen, & Stephenson, 2006).

Client perspectives. When designing new interventions, usability testing is commonly utilised to obtain the clients' perspectives related to helpfulness, satisfaction and ease of use. Usability testing is typically conducted prior to an intervention being implemented. However, for time and cost-saving reasons usability trials are being nested within RCTs as part of the overall evaluation of the intervention. These trials help to identify problems and thereafter implement changes to make interventions more helpful, acceptable and usable to its users. Additionally, they help to separate *medium-specific issues*, namely reactions to the intervention's structural aspects such as ease of use, from *content-specific issues,* which are reactions to the messages delivered by the intervention (Farzanfar, Finkelstein, & Friedman, 2004).

To date, only a handful of studies have conducted usability trials or sought clients' perspectives of online CBT-based interventions. The following section describes five studies

conducted between 2009 and 2012 in terms of their medium and content-specific issues. The methodologies adopted in the studies are also considered.

Using semi-structured interviews before and after therapy, Beattie and colleagues (2009) examined the acceptability of individual online CBT intervention from the client perspective. This online CBT intervention was provided by the website PsychologyOnline.co.uk and provided up to ten synchronous, text-based counselling sessions with psychologists. Drawing on the constant comparison method (Strauss & Corbin, 1998), a thematic approach was used to analyse the interview data. The findings revealed advantages as well as medium and content-specific issues. Anonymity was perceived to be advantageous as it assisted participants with disclosure and reduced embarrassment. Reading the discussions in written form and being able to re-read saved session transcripts was perceived to be of therapeutic benefit. Additionally, having a record of sessions over time assisted participants to evaluate their progress.

The key medium-specific issue was the establishment of a therapeutic working alliance. Participants reported that establishing this alliance was hindered by doubts related to their therapist's commitment; they were worried that whilst online, their therapist was multi-tasking or working with other clients during their session. Additionally, some participants were concerned that they were being misinterpreted and misunderstood without the aid of non-verbal communication.

The main content-specific issues related to the limited amount of content that could be covered in each session. Participants often experienced lengthy delays receiving and responding to the written communications transpiring between them and their therapist. Consequently, they perceived themselves to cover less content than what they expected was typical in face-to-face interventions. The authors concluded that iCBT interventions are

attractive to individuals who are comfortable with internet communication and who like to use writing as a way to reflect on their experiences.

Long and Palermo (2009) conducted usability testing of Web-MAP, an online family CBT program assisting adolescents with chronic pain through the use of an interactive and personalised website. Participants completed a questionnaire measuring their perceptions of the content and usability of the Web-MAP website. The questionnaire included a combination of Likert scale items and open-ended questions. In general, the intervention was perceived to be both useful and easy to use. Participants reported that the content was helpful and that the use of diagrams facilitated a better understanding of the content. Participants provided moderate to high ratings for the intervention's content, usability, appearance, and theme. Furthermore, program usage patterns demonstrated that the program was completed as instructed and that high degrees of engagement existed.

The medium and content-specific issues identified guided changes to the intervention. The main medium-specific issue related to the length of time it took for the webpage to load. The key content-specific issue related to visual images that were poorly received and some content perceived to be difficult to understand, too lengthy or repetitive. Changes were made to the intervention because of this feedback, which indicates the importance of seeking the perspectives of users of newly designed online interventions.

Mohr and colleagues (2010) examined the feasibility and usability of a multi-modal online intervention for depression, consisting of 'moodManager', a depression management skills training website and weekly telephone support provided by psychologists. Upon completion of the intervention, participants were interviewed to obtain their review on the website and the intervention along with a description of specific problems and recommendations for improvement. Overall, the participants rated the intervention as being

both helpful and enjoyable. The unique online mood and thought-tracking tools were favourably received. The medium-specific issues identified related to difficulties with website navigation and confusion surrounding the rules and requirements for progression through the intervention. Although the intervention's content was generally well received, two important content-specific issues were identified. First, many participants reported that the content was too brief. Second, it was reported that at times the tools were not used according to the purpose for which they were intended. For example, the thought records form was frequently used as a free-flow journal. The results from this study informed decisions related to ways in which treatment adherence in online interventions for depression could be optimised and attrition reduced.

Currie, McGrath, and Day (2010) investigated the usability of an iCBT intervention to treat depression, anxiety, and stress in adolescents. This intervention comprised an interactive website and weekly phone and email contact with mental health coaches. Again, the results of this research informed changes to the intervention's design to increase its acceptability to users. Participants completed a semi-structured questionnaire at the end of each program module that elicited feedback related to each program module and the program as a whole. The comments from the interview were transcribed, coded, and organised according to four themes; namely, ease of navigation, clarity, efficiency and acceptability. This research identified a number of medium and content-specific issues. The key medium-specific issues related to difficulties with downloading content and website navigation. The content-specific issues related to redundant or repetitive information and the provision of insufficient explanatory examples. The results from this research produced numerous structural and stylistic changes that enhanced the intervention's usability.

Given the high rate of attrition in online interventions treating depression, it is important that new internet-based programs are designed to maximise participant retention

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and engagement. Doherty and colleagues (2012) conducted a usability trial of an online CBT-based intervention for depression with the specific purpose of examining ways in which engagement could be increased. The intervention consisted of eight CBT modules accessed via an interactive website and therapist support. Qualitative feedback was elicited from participants using an online exit-questionnaire and data were analysed according to themes. The authors concluded that engagement and participant retention is maximised when online interventions are designed to be interactive, personalised, supportive and a source of social reinforcement. Careful use of design strategies can therefore promote engagement and retention in online depression interventions, in turn maximising opportunities for therapeutic gain.

Although usability research for online interventions is still emerging, the results from the five described studies indicate the value of clients' perspectives and feedback when designing and trialling new interventions. Objective outcome measures may not capture the subjective experience of those who participate in an online intervention (Hinchliffe & Mummery, 2008). Usability testing not only captures this experience, but also identifies medium and content-specific issues requiring adjustment or improvement. Implementing these changes will likely result in an intervention perceived by its users to be acceptable, easy to use and helpful. The importance of obtaining participant feedback for a newly designed online intervention therefore cannot be understated.

Therapist perspectives. Online group therapy is an emerging treatment modality and as such very little research exists from the therapist's perspective. This research is important for several reasons. Fenichel and colleagues (2002) state that there are a number of myths surrounding online therapy deterring clinicians from incorporating this medium into their therapeutic practice. Studies investigating the online therapist's perspective can help to

dispel these myths, address concerns, and increase the uptake of online service provision.

Additionally, little is known about the practical and clinical skills that are required for this

type of work. Gaining an in-depth perspective from online group therapists will help inform

guidelines related to the skillset required to conduct therapeutic groups online. Similarly, this

perspective can help to identify the characteristics of individuals who are best suited to

participate in this type of therapy.

The therapist's perspective can also help to clarify how therapeutic alliance develops

online. Defined as the extent to which clients and therapists work collaboratively and

purposefully and connect emotionally, therapeutic alliance is considered the largest single

factor influencing the outcome of effective therapy in face-to-face counselling (Fletcher-

Tomenius & Vossler, 2009), and strong correlations exist between client perceptions of

working alliance and their therapeutic outcomes (Cook & Doyle, 2002). However, these

authors state that concerns exist amongst clinicians surrounding the development of a strong

therapeutic relationship in online environments when client and therapist are separated by

geographical distance and non-verbal cues are absent.

In individual online therapeutic work these concerns appear to be unfounded, with a

number of studies reporting that a robust working alliance is possible within an online

context. For example, Cook and Doyle (2002) compared therapeutic alliance in synchronous

online and face-to-face counselling. These authors suggested that online relationships are

frequently formed that are as strong and viable as their offline counterparts and that the

anonymity afforded by the online medium might facilitate greater disclosure and intimacy.

Indeed, the results from this study indicated that therapeutic alliance was rated higher by the

online than the face-to-face cohort. This suggests that a strong and empathic online

therapeutic relationship can develop for individuals who are motivated to receive online

counselling.

Fletcher-Tomenius and Vossler (2009) investigated online therapeutic alliance from the therapist's perspective. They conducted focus groups with counsellors with experience in synchronous and asynchronous forms of online counselling in order to gain information on how trust, a key component of therapeutic alliance, develops in the online medium. These counsellors reported that the anonymity provided by web-based counselling facilitated the development of trust and created a disinhibition effect whereby clients more readily disclosed sensitive or embarrassing matters. Furthermore, they perceived the online space to be less judgemental than face-to-face as judgements related to physical appearance, age and gender could not be made. This was seen to facilitate the development of trust and a strong therapeutic alliance online. It was concluded that trust develops similarly online as it does face-to-face and that the online medium does not create a barrier for the development of a strong therapeutic alliance.

Non-verbal and paraverbal cues such as gestures and tone of voice assist and enhance communication, important in the establishment of a strong therapeutic alliance. This information is however lost in text-based online interventions. Bambling, King, Reid, and Wegner (2008) examined the experience of counselling in synchronous, text-based environments from the therapists' perspective. Specifically, they investigated the ease with which emotional state could be detected, the way in which online counselling promoted or detracted from communication of difficult or complex emotions, communication issues that may arise when working in this medium and strategies assisting in the online communication of emotions. The counsellors who participated in this research reported lower emotional intensity compared with telephone counselling, making it easier for clients to communicate difficult issues and increasing opportunities for counsellors to reflect on their responses. Similar to Fletcher-Tomenius and Vossler (2009), a disinhibition effect was noted, which increased the disclosure of personally-sensitive material. The counsellors reported that it was

possible to detect changes in emotional states and that in general, the online medium facilitated the communication of difficult or complex emotions. However, they also noted that the lack of non-verbal feedback increased the possibility of miscommunication and misunderstanding, which compromised the therapeutic relationship. Furthermore, many counsellors reported that the responses from their clients were frequently delayed, affecting their ability to maintain an empathic connection. This research provided valuable insights into therapists' perceptions of online communication and the impact this has on the therapeutic relationship.

Haberstroh, Parr, Bradley, Morgan-Fleming, and Gee (2008) conducted a detailed analysis on the process of facilitating online counselling. They also identified barriers impeding effective online counselling, conditions supporting it and provided recommendations for clinicians working within the online medium. Using a grounded theory approach, six counselling interns providing synchronous text-based online counselling were interviewed multiple times over a five-week period about their online counselling experiences.

The counsellors identified a number of barriers that impede online counselling, the primary one being technological difficulties. Poor internet connections, software and hardware compatibility problems and limited technical skills negatively affected the quality of the counselling, creating frustrations for counsellors and clients. Counsellors also reported that counselling without visual or verbal cues reduced their sense of control and made it difficult to formulate an overall clinical impression of the client. Additionally, the counsellors reported that the slow pace of online counselling attenuated the depth and breadth of the contents of the sessions. Consequently, the session content was often limited, as was the potential to more broadly explore a wider range of topics.

The counsellors acknowledged that although the online medium presented some barriers impeding effective counselling, it also contained some unique features facilitating effective clinical work. Consistent with client reports, the counsellors stated that the anonymity afforded by online counselling increased disclosure and allowed for frank interactions to take place. The text-based nature of the interactions was also perceived to facilitate reflection and allowed for more focussed session content.

The counsellors provided valuable insights into how their face-to-face counselling practices translated into the online medium. They reported that reflections of meanings and feelings, summarising and immediacy were the skills that were most often used to establish a therapeutic relationship. The online environment was also reported to provide certain advantages to developing the counsellors' clinical skills. Several counsellors reported feeling more comfortable in the online setting as it provided time to construct thoughtful and meaningful responses. It was easier for the counsellors to focus as they only had one thing to attend to, namely the text-based dialogue between them and their clients. The slower pace of the online sessions allowed the counsellors more time to concentrate on their clinical skills. Additionally, performance anxiety was reduced as the counsellors had time to formulate their responses without the interpersonal pressures that are presented face-to-face.

The counsellors also reported that they had to consider their professional boundaries when conducting online counselling. Many of the counsellors worked from home, which created a number of concerns related to confidentiality and appropriate professional practice. Counsellors reported becoming easily distracted by non-counselling related tasks whilst waiting for their clients to respond and expressed concern that they would be interrupted by others during their counselling sessions. As such, they recommended that a home office be used to conduct online counselling sessions, appropriate childcare be sourced during the sessions and that sessions are never conducted in public spaces.

The research described so far relates to therapist perspectives of individual online interventions. Whilst these findings may be applicable to group-based online counselling, the group environment is more complex than one-on-one interactions. Different skills may be required to manage communication effectively and facilitate a strong working alliance for the group as a whole. It is therefore important to understand therapists' perspectives of conducting treatment groups online. However, this research is still in its infancy; there exists only one published study investigating this perspective.

Barak and Wander-Schwartz (2000) compared a face-to-face and online counselling group for university students with non-clinical concerns. The online therapy was provided in a password-protected online chat room with six participants. The therapists providing the face-to-face and online counselling were interviewed as a part of the study. The online therapist reported feeling satisfied with the process of providing group therapy online. In many ways, it was reported to be very similar to face-to-face groups. However, it was noted that interpersonal relationships developed faster online. This is consistent with Walther's notion of hyperpersonal communication, which asserts that computer-mediated communication can be more socially desirable and develop quicker than in parallel face-to-face interactions (Walther, 1996). Barak and Wander-Schwartz's research provides some key insights into the experience of facilitating online therapeutic groups. However, as only one therapist conducted the online group the study's results cannot be easily generalised. Further research is therefore required.

Supervisor perspectives. Mental health practitioners typically require ongoing supervision to guide their clinical practice. This is particularly relevant for practitioners who are still in training. With the growing popularity of online interventions, clinical supervisors will likely be required to supervise practitioners who provide online counselling services.

Currently there exists little research to guide clinical supervisors in the process of overseeing online clinical work. Further investigation into this supervision modality is therefore required.

Recognising the need for research in this area, Haberstroh and Duffey (2011) conducted a study to investigate the experience of supervising online counselling. Two supervisors who provided clinical supervision to online counselling interns participated in this study. A structured interview was used to obtain information related to the supervisors' experiences. Coding and triangulation procedures were used to analyse the data.

Initially, the supervisors reported feeling nervous about their ability to provide online counselling supervision, but they soon realised that the practice of supervising online and face-to-face counselling is more similar than it is different. However, they acknowledged that the skill sets of online therapists were different. The supervision sessions consequently required a different focus. The qualities seen to facilitate effective online counselling were empathy, firm boundaries, maturity, stability and a strong sense of ethics. The supervisors felt that good care was delivered online by counsellors who were self-reflective, insightful and genuinely caring about their clients. The supervisors also noted that counsellors appeared to be most effective when they used open-ended questions and reflected content, affect and behaviours.

Perhaps unsurprisingly, given the issues raised by Haberstroh and Duffey (2011) the supervisors paid close attention to the ethics surrounding online clinical practice. Standard ethical practice was seen to easily transfer to the online environment with the ethical principles of beneficence, fidelity and non-malfeasance being considered of primary importance.

Although the supervisors reported that supervising online work was not markedly different to face-to-face, they did highlight key points on which to focus when providing online counselling supervision. Reviewing session transcripts was seen to be of vital importance. The need to look for relational connections between the counsellor and client was highlighted. Supervisees should be encouraged to create a therapeutic relationship that is warm and professional without being conversational. It was also considered important to work on how empathy can best be conveyed in the absence of non-verbal cues.

Oravec (2000) provided additional insights into the process of providing supervision to mental health practitioners engaged in online clinical work. Oravec recommended that supervisors assist their supervisees to recognise when online work is no longer appropriate and face-to-face intervention required. The author further stated that supervisors should develop a set of warning signs that their supervisees could use to guide their decision to terminate this form of counselling. Supervisors should also provide insight into the potential pitfalls of conducting online work, such as the dangers of misinterpretation of content as a result of the lack of tonal cues in text-based communication. Oravec also recommended that both supervisors and supervisees remain abreast of current research and practice guidelines into online counselling so that they are informed about standards of best practice.

Thomas and colleagues (2007) stated that further research is needed to investigate previous, current or potential future supervisors' experiences and perceptions of the benefits and challenges of supervising student placements, and to identify how the benefits can be maximised and the challenges minimised. As the MoodGroup facilitators participated in this project as part of a clinical student placement, this investigation aims to contribute to the literature surrounding the supervision of placement students, and be the first to discuss this experience in the context of online group work.

The research described above provides valuable insight into the experience of online interventions from the perspectives of clients, therapists and their supervisors. However, there is currently a paucity of research on these perspectives for online group therapy. This research is vital, as it will assist to design better interventions and better prepare therapists to facilitate this emerging form of treatment. The present investigation therefore attempts to bridge this research gap by investigating the perspectives of clients, facilitators and the clinical supervisor for the MoodGroup intervention.

Research Aims

Using a mixed-methods approach, this investigation describes the MoodGroup experience from the perspectives of its group members, facilitators and clinical supervisor. As such, it addresses the fourth research question posed in this thesis by detailing what can be learnt from these key stakeholders. The first aim of this investigation was to describe the results of the usability testing of the MoodGroup intervention. The second aim was to examine the experience of group facilitators, exploring the factors that facilitators believe enhance and detract from therapeutic process online. The final aim of the investigation was to examine the experience of the clinical supervisor, who supervised MoodGroup facilitators, exploring perceived challenges, gains and suggestions for improvement.

Methodology

Research Ethics

Approval for the usability testing was granted by the RMIT Human Research Ethics Committee as part of the project number 33/11 titled 'The efficacy of an online group therapy program for the treatment of depression in Australian adults'. See Appendix D for more

information. The RMIT Human Research Ethics Committee also provided approval to investigate the perspectives of the facilitators and clinical supervisor through a separate application; project number 15/13 titled 'Facilitating and supervising group therapy online: The MoodGroup experience'. See Appendix N for more information.

Recruitment of Participants

MoodGroup members. The usability testing of the MoodGroup intervention was nested within the RCT. As such, those who participated in MoodGroups also evaluated their usability. Chapter 4 (p.123) describes the recruitment of MoodGroup members.

Facilitators. The six provisional psychologists who facilitated the MoodGroups were invited to participate in this research, five of whom accepted. These facilitators were female and engaged in the Masters of Clinical Psychology program at RMIT University. Their participation in the MoodGroup intervention was included as part of their clinical placement. Chapter 3 (p.111) describes the recruitment, training and supervision of the MoodGroup facilitators.

The facilitators were made aware of the voluntary nature of their participation. Furthermore, they were informed that their participation would in no way influence their clinical placement evaluations.

Clinical supervisor. The supervisor who provided clinical supervision to the MoodGroup facilitators agreed to participate in this research. As a registered clinical psychologist, this supervisor is a member of the clinical college with ten years' experience supervising postgraduate psychology students. He was also a supervisor of the overall research project.

Data Collection

MoodGroup members. At the conclusion of each MoodGroup session, the relevant facilitator emailed the MoodGroup participants with a link to complete an online session evaluation questionnaire. This questionnaire comprised seven items rated on a five-point Likert scale ranging from "strongly disagree" (0) to "strongly agree" (4). These items gathered information on the structure, content and presentation of the session and its associated readings and activities. It also included four open-ended questions that assessed what was learnt, what participants liked most and least about the session and suggestions for improvement. A copy of the questionnaire is provided in Appendix E.

The questionnaires were completed anonymously in an attempt to reduce socially desirable responses and promote frank and open responding. The facilitators viewed the feedback questionnaires prior to conducting their next session, allowing them to make modifications to their sessions according to the feedback received. The feedback served as a form of continuous improvement. The facilitators also discussed the feedback with the group members at the start of the next group session. It was hoped that this would make the group members aware that their feedback was being considered and increase response rates. As indicated in Table 24, response rates for the session evaluation questionnaires was high, ranging between 65-100%.

Facilitators. A focus group was conducted using a semi-structured interview to examine facilitators' experiences of running a MoodGroup. This focus group emphasised the perceived challenges and gains, strengths and limitations, suggestions for improvement and treatment fidelity. Facilitated by the author, the focus group was conducted in the same virtual therapy room used for the MoodGroup sessions. Although facilitators had the option

to remain anonymous by utilising a user-name in the virtual therapy room, they all chose to use their real names.

Table 24

Response Rates of the MoodGroup Session Feedback Questionnaires

	Session								
	Intro	1	2	3	4	5	6	7	8
Attendees	38	35	29	26	26	21	17	17	21
Completed questionnaires	34	29	19	19	20	21	14	14	16
Response rate (%)	89.4	82.8	65.51	73.07	76.92	100	82.35	82.35	76.90

Supervisor. The supervisor who provided clinical supervision to the MoodGroup facilitators completed a semi-structured interview questionnaire. This questionnaire gathered information of the supervisor's perspective of the perceived challenges and gains of supervising online group facilitators as well as his suggestions for improvement. Chapter 3 (pp.111-112) provides a description of the supervision process for the MoodGroup facilitators.

Data Analysis

The raw data from the group members' weekly feedback questionnaires was imported from Qualtrics, the online questionnaire software used in this investigation, to SPSS Version 21. The frequency and percentage of response for each Likert-scale item was tabulated, and the mode for each item calculated. Percentage agreement was calculated by summing the scores for each statement across all sessions and calculating the percentage using the formula:

$$\frac{\text{Summed statement score}}{(\text{Total number of responses} \times 5 \text{ Likert-scale choices})} \times 100$$

The Kruskal-Wallis test was used to determine if significant differences in the feedback for each session existed. The dependent variable was the Likert-scale response for each item and the independent variable the session number. Where significant results occurred, follow-up pairwise analyses using the Mann-Whitney U test were conducted. A Bonferonni correction of $p = .006$ was applied.

Content analysis was used to determine the themes emerging from the four open-ended questions from the feedback questionnaire, the transcripts from the facilitator focus group and supervisor questionnaire. Content analysis aims to classify text into similar meanings. It subjectively interprets the context of text data through a systematic classification process of coding and theme identification (Hsieh & Shannon, 2005). The procedure outlined by Braun and Clarke (2006) was used. Transcripts were read repeatedly to achieve immersion and obtain a sense of the whole. The data were then read word by word to derive codes. These codes were then sorted into categories that were meaningfully clustered.

Results

The results of the analyses are presented in three separate sections: usability analysis (comprising an analysis of the usability statements, reported learnings and group member feedback), the facilitator perspectives and the clinical supervisors' perspective.

Analysis of Usability Statements

Table 25 details the number and percentage of responses for the Likert-scale items in the Session Evaluation Questionnaires. This table also provides the mode, or most often repeated Likert-scale response, for each usability statement. Figure 11 presents the overall

Table 25

Number and Percentage of the Usability Statements in the Session Evaluation Questionnaires

	Session								
Usability statement	Introduction	1	2	3	4	5	6	7	8
The content/info was relevant to me									
Strongly disagree	2 (5.9%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (6.3%)
Disagree	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (7.1%)	0 (0.0%)	1 (6.3%)
Neither agree nor disagree	3 (8.8%)	3 (10.3%)	0 (0.0%)	0 (0.0%)	2 (10.0%)	1 (4.8%)	2 (14.3%)	0 (0.0%)	0 (0.0%)
Agree	24 (70.6%)	16 (55.2%)	14 (73.7%)	11 (57.9%)	10 (50.0%)	10 (47.6%)	3 (21.4%)	8 (57.1%)	7 (43.8%)
Strongly agree	5 (14.7%)	10 (34.5%)	5 (26.3%)	8 (42.1%)	8 (40.0%)	10 (47.6%)	8 (57.1%)	6 (42.9%)	7 (43.8%)
Mode	4	4	4	4	4	4	5	4	4
The content/info was helpful to me									
Strongly disagree	2 (5.9%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (6.3%)
Disagree	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (5.3%)	0 (0.0%)	0 (0.0%)	1 (7.1%)	0 (0.0%)	1 (6.3%)
Neither agree nor disagree	6 (17.6%)	5 (17.2%)	0 (0.0%)	1 (5.3%	4 (20.0%)	2 (9.5%)	1 (7.1%)	2 (14.3%)	0 (0.0%)
Agree	22 (64.7%)	11 (55.2%)	13 (68.4%)	10 (52.6%)	7 (35.0%)	10 (47.6%)	6 (42.9%)	7 (50.0%)	9 (56.3%)
Strongly agree	4 (11.8%)	8 (27.6%)	6 (31.6%)	7 (36.8%)	9 (45.0%)	9 (42.9%)	6 (42.9%)	5 (35.7%)	5 (31.3%)
Mode	4	4	4	4	5	4	4	4	4
The information was clearly presented									
Strongly disagree	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (4.8%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Disagree	1 (2.9%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (6.3%)
Neither agree nor disagree	2 (5.9%)	0 (0.0%)	3 (15.8%)	1 (5.3%)	1 (5.0%)	0 (0.0%)	1 (7.1%)	2 (14.3%)	0 (0.0%)
Agree	22 (64.7%)	21 (72.4%)	11 (57.9%)	10 (52.6%)	10 (50.0%)	10 (47.6%)	5 (35.7%)	7 (50.0%)	9 (56.3%)
Strongly agree	9 (26.5%)	7 (24.1%)	5 (26.3%)	8 (42.1%)	9 (45.0%)	9 (42.9%)	8 (57.1%)	5 (35.7%)	6 (37.5%)
Mode	4	4	4	4	4	4	5	4	4

Session									
Usability statement	Introduction	1	2	3	4	5	6	7	8
The group activities/discussions were useful to me									
Strongly disagree	1 (2.9%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (6.3%)
Disagree	1 (2.9%)	1 (3.4%)	1 (5.3%)	0 (0.0%)	2 (10.0%)	2 (9.5%)	1 (7.1%)	1 (7.1%)	0 (0.0%)
Neither agree nor disagree	4 (11.8%)	4 (13.8%)	1 (5.3%)	2 (10.5%)	1 (5.0%)	1 (4.8%)	0 (0.0%)	2 (14.3%)	1 (6.3%)
Agree	23 (67.6%)	17 (58.6%)	11 (57.9%)	13 (68.4%)	8 (40.0%)	10 (47.6%)	7 (50.0%)	7 (50.0%)	9 (56.3%)
Strongly agree	5 (14.7%)	7 (24.1%)	6 (31.6%)	4 (21.1%)	9 (45.0%)	8 (38.1%)	6 (42.9%)	4 (28.6%)	5 (31.3%)
Mode	4	4	4	4	5	4	4	4	4
There was a good balance between theory & practice									
Strongly disagree	2 (5.9%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (6.3%)
Disagree	1 (2.9%)	1 (3.4%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (4.8%)	0 (0.0%)	0 (0.0%)	1 (6.3%)
Neither agree nor disagree	11 (32.4%)	3 (10.3%)	3 (15.8%)	1 (5.3%)	2 (10.0%)	2 (9.5%)	1 (7.1%)	2 (14.3%)	1 (6.3%)
Agree	16 (47.1%)	19 (65.5%)	8 (42.1%)	12 (63.2%)	10 (50.0%)	11 (52.4%)	5 (35.7%)	8 (57.1%)	9 (56.3%)
Strongly agree	4 (11.8%)	6 (20.7%)	8 (42.1%)	6 (31.6%)	8 (40.0%)	7 (33.3%)	8 (57.1%)	4 (28.6%)	4 (25.0%)
Mode	4	4	4	4	4	4	5	4	4
The readings were useful & easy to understand									
Strongly disagree	1 (2.9%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (6.3%)
Disagree	0 (0.0%)	1 (3.4%)	0 (0.0%)	1 (5.3%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Neither agree nor disagree	16 (47.1%)	3 (10.3%)	2 (10.5%)	1 (5.3%)	4 (20.0%)	1 (4.8%)	2 (14.3%)	1 (7.1%)	0 (0.0%)
Agree	11 (32.4%)	14 (48.3%)	11 (57.9%)	9 (47.4%)	8 (40.0%)	14 (66.7%)	5 (35.7%)	8 (57.1%)	8 (50.0%)
Strongly agree	5 (14.7%)	11 (37.9%)	6 (31.6%)	8 (42.1%)	8 (40.0%)	6 (28.6%)	7 (50.0%)	5 (35.7%)	7 (43.8%)
Mode	3	4	4	4	4	4	5	4	4

Note: For mode: 3 = Neither agree nor disagree, 4 = Agree, 5 = Strongly agree

percentage agreement for each of the six usability statements. These ranged between 81.51-84.62%.
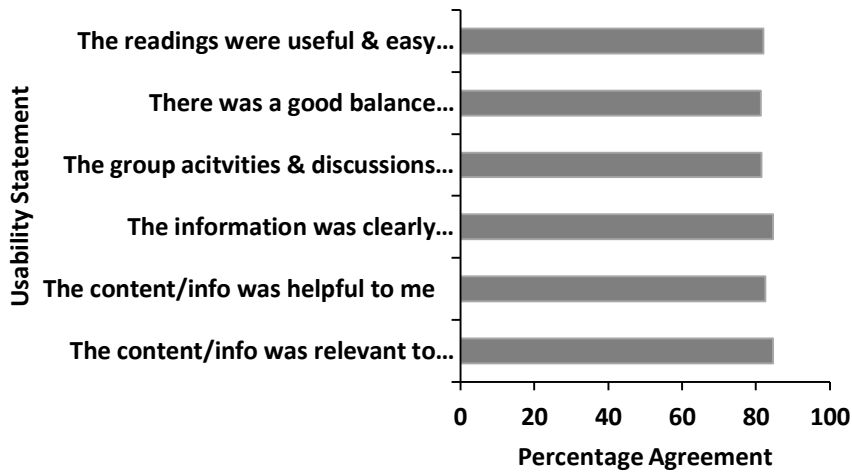

Figure11. Overall percentage agreement for usability statements.

Kruskall-Wallis tests were conducted to determine if there were significant differences in the ratings for each item across the nine sessions. Table 26 presents a summary of these results. As summarised in the table, significant differences existed for the statements "*There was a good balance between theory and practice*" and "*The readings were useful and easy to understand*".

Follow-up Mann-Whitney U tests were conducted to evaluate pairwise differences among the sessions for each of these statements. As indicated inTable 27, there were significant differences between the Introductory session and Sessions 3, 4 and 6 for the statement "There was a good balance between theory and practice". Furthermore, significant differences were found between the Introductory session and Sessions 1, 3, 5, 6 and 8 for the statement "The readings were useful and easy to understand". In all of these cases, the Introductory session was rated lower than the sessions with therapeutic content.

Analysis of the Reported Learning from Each Session

The Session Evaluation Questionnaires included an open-ended question asking

participants to report what they had learnt from the session. These responses were compared

with the session outlines. Table 28 provides this comparison. As demonstrated by this table,

there was a substantial overlap between the session outline and the participants' reported

learnings.

Table 26

Differences in Ratings of Usability Statements across the MoodGroup Sessions

Usability statement	χ^2	df	N	p	η^2
The content/information was relevant to me	11.17	8	186	.19	.06
The content/information was helpful to me	10.47	8	186	.23	.06
The information was clearly presented	7.63	8	185	.47	.04
There was a good balance between theory and practice	20.67	8	186	.01	.11
The group activities/discussions were useful to me	6.53	8	186	.59	.04
The readings were useful and easy to understand	20.10	8	185	.01	.11

Group Member Feedback

The results from the content analysis investigating the comments from group

members regarding what was liked most and least about the sessions and suggestions for

improvement revealed four main themes, namely the online medium, content, structure and

the group environment. Each of these is discussed in turn.

Online medium. The online environment was highly valued by group members.

They appreciated the anonymity (*"I liked being with other people but being anonymous" -*

Participant 5, Group 1) and felt that it provided an environment whereby they were not pressured to participate beyond what was comfortable for them. They enjoyed being able to engage in private discussions between themselves or their facilitator. However, several factors about this online intervention lacked appeal. The technology was reportedly difficult to master at times and technical difficulties were frustrating. Following the stream of chat was often difficulty and the text-based communication made it easy for misinterpretations to occur. The pace was reportedly slow with many delays. As one group member stated: "*Conversations are a bit stilted because of the nature of the technology in use, there was a lack of flow at times…gaps while everyone was waiting for someone to say something*"(Participant 2, Group 1).

Table 27

Follow-Up Evaluation of Statements with Significant Differences in Usability Ratings

Session	1	2	3	4	5	6	7	8	9
					p-values				
1.Intro	-	.027	.008	.004*	.003*	.016	.001*	.041	.138
2.S1	003*	-	.257	.262	.178	.479	.029	.673	.924
3.S2	.006	.843	-	.885	.945	.708	.397	.627	.367
4.S3	.004*	.737	.644	-	.813	.810	.271	.679	.422
5.S4	.011	.011	.967	.749	-	.583	.416	.545	.320
6.S5	.002*	.002*	.957	.649	1.00	-	.210	.881	.575
7.S6	.005*	005*	.506	.788	.592	.516	-	.194	.101
8.S7	.006	.006	.788	.872	.849	.803	.701	-	.728
9.S8	.003*	.003*	.523	.883	.626	.514	.918	.728	-

Note: p-values across the nine sessions for the statement "There was a good balance between theory and practice" are presented above the diagonal, and *p*-values across the nine sessions for the statement "The readings were useful and easy to understand" are presented below the diagonal. $^*p < .006$. Intro= introductory session

Table 28

Comparison between Session Outlines and Participants' Reported Learning

Session	Session outline	Participant' reported learnings
Introduction	- Introduction - Confidentiality - Expectations - Use of technology - Goals - Barriers of participation - Group guidelines	- Introduction to the group - Confidentiality agreement - Expectations - Use of technology - Goals - Overcoming barriers - Importance of practice - Rules & structure - Sense of belonging
Session 1	- CBT triangle - Degrees of difficulty in influencing change - Overcoming procrastination - Acceptance of emotions - Changing actions and thoughts to change feelings - Opposing negative tendencies - Estimating the difficulty of taking action - Goal setting	- CBT triangle - Degrees of difficulty in influencing change - Overcoming procrastination - Sense of belonging - Impact of depression - Realistic thinking - Strategies for change
Session 2	- Goal review and goal setting - SMART goals - Problem solving - Overcoming obstacles to goal-setting	- Goal setting - SMART goals - Sense of belonging - Realistic thinking - Overcoming procrastination - Expectations - Controlling thoughts
Session 3	- Goal review and goal setting - Introduction to stress - Fight or flight - Appraisal of stress - Interpretation of events - Lifestyle review	- Fight and flight - Stress management - Appraisal of stress - Lifestyle management - SMART goals - CBT triangle

Session	Session outline	Participants' reported learnings
Session 4	- Goal review and goal setting - Automatic thoughts - Monitoring automatic thoughts - Influence of thinking on feeling - Safe and unsafe appraisals - Situation, interpretation & response	- Goal setting & SMART goals - Automatic thoughts - Thought monitoring - Realistic thinking - Interpretation of events - Adaptive thinking
Session 5	- Goal review and goal setting - Faulty assumptions - Biases in thinking - Handling changes in mood - Overcoming setbacks - Thought monitoring - Thought challenging - Adaptive thinking - Worrying time - Facing the worst - Retraining negative thinking	- SMART goals - Faulty assumptions - Thinking errors - Distorted thinking - Adaptive thinking - Realistic thinking - Automatic thoughts - Thought monitoring - Being kind to yourself - Interpretation of events - Sense of belonging - Process of recovery - Challenging thought distortions
Session 6	- Goal review and goal setting - Role of social network - Ideal versus actual social network - Creating social changes - Strategies for overcoming barriers to friendships	- Goal setting - Role of social network - Expanding friendships - Dealing with setbacks - Trying new things - Worry time - Interpretation of events - Thought monitoring - False assumptions
Session 7	- Goal review and goal setting - Social balancing - Assertive communication - Boundary setting - Managing setbacks	- Role of social networks - Expanding friendships - Assertiveness skills - Problem solving - Importance of disclosure - Adaptive thinking
Session 8	- Goal review and goal setting - Course review - Preventing future difficulties - Relapse prevention - Mood emergency action plan - Reflection of progress - Farewells	- Goal setting - Assertiveness skills - Stress management - Dealing with setbacks - Relapse prevention - Revision - Reflection of progress

Group members suggested that audio be included to maintain anonymity whilst improving the pace and quality of the communication. They also suggested better utilisation of the technical features within the online classroom. For example, one group member suggested that the "raise hand" feature be more extensively used to check for understanding. It was also suggested that participants use explicit cues like the tick symbol to indicate when they have completed an activity to increase the session pace.

Content. The group members reported that the content was informative, relevant and challenging. They also reported that they enjoyed learning and practising new skills. However, at times it was reported that there was too much content, which interfered with the group member's ability to discuss the topics in-depth and explore their own personal issues. As one participant reported: *"I disliked how fast we moved through the material and when participants got on a topic they enjoyed there wasn't time to really talk to each other"* (Participant 9, Group 2). They experienced frustration in mastering the content and stated that at times the home practice activities and readings were excessive. They also reported that the readings were too simplistic, which created a patronising tone and would have preferred them to be updated for an Australian audience. Several group members stated that they had difficulty understanding the graphs and suggested that these be clarified. They also suggested that the readings be re-written to make them less simple and more relevant to Australians. They also suggested having more practical examples about mastering the content and requested that group members be provided with a session outline at the start of the group and copies of the slides at the end. Some group members already familiar with the concepts of CBT suggested an advanced CBT group.

Structure. In general the sessions were considered to be a good length and provide an appropriate balance between theory and practice. However, for some the sessions were scheduled at inconvenient times. This was most obvious for sessions scheduled in the mornings and around school pick-up time in the afternoons. At times, the group members reported having difficulty concentrating for the full two hours and noted that the sessions appeared to lack structure. Some members wished to focus more on the content and skills than group discussion, making comments like this: "*I disliked the extended discussion about issues that were important to particular individuals. I understand that this group is fantastic space for us to listen and support each other, but within the context of learning ways to help ourselves function better. However, I felt this session was more focussed on individual concerns*" (Participant 27, Group 4). Conversely, those wishing to engage in more in-depth personal discussions made comments like this: *"I understand it's not the point of this thing, but I was kind of annoyed that we're discouraged from opening up about our problems. Again, I understand this creates many problems however, I think this is the perfect platform for a depression rant"* (Participant 34, Group 5). Many reported that the sessions did not allow for sufficient time to address their personal concerns or explore concepts in greater depth. They consequently suggested creating a forum outside the sessions for personal conversations and socialisation. They also recommended having a review session a few weeks after the conclusion of the intervention.

Group environment. The group members valued many aspects of the group including the sense of belonging, honesty, interactivity, team work and sense of humour. They frequently expressed appreciation of the supportive and understanding environment group environment and stated that it was well-facilitated. One participant summed up her experience by stating: *"The group members were comfortable and felt safe enough to share*

some deep personal emotions. We're all in the same boat and are starting to feel that more" (Participant 49, Group 6). Many group members enjoyed working in smaller groups and expressed hope for their recovery. At times, however the group environment was problematic. Some group members reported that their participation was limited by a small number dominating the discussion and others reported finding it difficult to relate to their fellow group members. Group members expressed frustration when others were not punctual. Some reported that there was too much focus on the content and too little on interpersonal discussion whilst others reported the opposite. Many group members reported feeling apprehensive about the end of the intervention as they had come to rely on the support it provided. To assist with this, it was suggested that an online support forum be developed to allow for group members to continue interacting with each other once their MoodGroup had concluded. They also suggested that groups be more homogenous so that group members could better relate to each other. There was a lack of consensus regarding the size of the group; some members suggested it be increased whilst others requested that the groups be capped at four to five members. One of the group members summed up her ambivalence regarding the group size with the following statement*: "It's a double edged sword. As the group shrinks, there's an increased sense of togetherness but a decreased sense of importance because there's fewer of us. I like the smaller group, four or five, in comparison to a larger one though"* (Participant 10, Group 2).

In general, the feedback from group members was positive and indicated that the MoodGroup intervention had high usability and acceptance ratings. It was also considered a valuable and enjoyable experience. The following statement from a MoodGroup member provides both an excellent summary and insight into the reasons for the high acceptability of the MoodGroup intervention: *"MoodGroup has been amazing. It has really helped me out, especially being able to talk and interact with people who are in my shoes. As an online*

format it makes the whole thing seem very informal and, even with my confrontation issues,

has not felt at all confronting for the entire nine weeks. As it's just a couple of hours in my

study I barely have to take any time out of my week to commit to mood group (sic) and the

readings were always very comprehensive and easy to read, as well as informative and a

good lead up to the next session. I found myself looking forward to mood group (sic) and the

participants and facilitator were always amazingly helpful in getting through it even if I was

feeling very down. Thank you for this opportunity and I appreciate the support and hope that

this study gets the attention it deserves and can one day begin to help a lot more people than

just the handful you have reached" (Participant 38, Group 5).

Facilitator Perspectives

The focus group with the MoodGroup facilitators explored what they liked most and

least about facilitating the intervention, the challenges they faced, suggested improvements,

strengths and limitations of the program and the gains they experienced. Content analysis

revealed that the facilitators' responses could be classified according to four major themes,

namely the online medium, group environment, therapist factors and content and structure.

Each of these is discussed in turn.

Online medium. The facilitators appreciated the convenience of being able to

facilitate this online group-based intervention from their home. They felt that the

intervention was highly accessible to group members and removed many of the barriers

traditionally associated with accessing face-to-face therapy such as cost, distance, need for

child care and experience of social anxiety: *"I think that one of MoodGroup's biggest*

strengths is that it is delivered in a mode that is less anxiety provoking than face-to-face

groups, so perhaps people who are typically avoidant were given a chance to engage in

therapy where they might otherwise find it hard to engage in' (Facilitator 3). Although the

facilitators were overwhelmingly positive about the online nature of the intervention, they did express frustration with the technical difficulties they encountered, such as unstable internet connections and the challenge of mastering the technical features of the virtual therapy room. At times, they felt that they were required to be more of an IT consultant than a therapist and reported that some of these technical features were more cumbersome than helpful. For example, dividing group members into smaller groups was reported to be time consuming and confusing. They were therefore reluctant to use this function. One of the facilitators summarised her technological challenges by stating: *"The main challenge I faced related to technical difficulties, mainly with managing the group activities- like writing on the whiteboard, trying to create and manage break out rooms, and helping participants out who had technical questions'* (Facilitator 5).

The online medium presented the facilitators with a number of unique challenges. Although they appreciated being able to work from home they did report that it was harder to maintain their professional boundaries in this setting and had greater difficulty than normal switching off from their sessions. Working in an environment without non-verbal cues was challenging as it made it more difficult to track group members' progress and monitor their mood state and understanding. This led to apprehension amongst the facilitators regarding their ability to successfully assess and contain risk situations. However, upon reflection the facilitators acknowledged that risk management online was more similar than it was different to face-to-face settings. As one facilitator stated: *"There is stuff about facilitating online that is a bit difficult, like assessing risk but, that's just as hard as in real life in that, you can't just leave the room in real life either. And in both cases you are really just relying on the client's word"* (Facilitator 3). The facilitators also expressed that the online medium made it difficult to prevent group members becoming tangential as they were able to type at the same time, leading to multiple streams of conversation. Facilitators also reported frustration at being

unable to use micro-counselling skills like nods or non-verbal encouragers to acknowledge responses. One facilitator reported having difficulty finishing her sessions on time, attributing this to the lack of physical cues that are present with face-to-face sessions such as getting out of her seat and walking to the door. They felt that the intervention could be improved by providing more time for both themselves as facilitators and group members to acclimate to the technology. They also suggested that the weekly readings be incorporated into an interactive website to encourage more active engagement.

Although the facilitators experienced a number of challenges because of the online medium, they also reported experiencing a number of gains. They were excited by the opportunity to work with a novel form of therapy and reported that the experience increased their skill set and employment prospects. Indeed, one facilitator obtained employment as an online counsellor shortly after facilitating a MoodGroup. The facilitators also reported experiencing great satisfaction in helping people who may otherwise have been unable to access support. Working in an online group-based environment was typically described as being challenging but rewarding. One facilitator summarised her experience by stating: "*I really enjoyed being able to help some people that admitted that they couldn't access help and social support where they were. Although challenging, it was so exciting to be involved in a world first like this, and to get the opportunity to reach out to the most vulnerable and offer a place where people could share their feelings with some of the barriers of normal therapy removed*" (Facilitator 2).

When asked about the limitations of the online medium, the facilitators reported that the absence of non-verbal cues made it more difficult to determine if all group members understood what was being explained or were ready to move on. They also stated that they were reliant on the group members explicitly asking for help or stating that they did not understand. They reported that it was easier to identify those who needed extra support in

face-to-face settings through observation of facial expressions and body language. A comment from Facilitator 2 captures these limitations: *"The limitation of missing out on face-to-face communication cues makes it a bit harder to determine if everyone is really on the same page, and perhaps people who found it hard to ask for help/clarification were more likely to drop out?"* However, the online environment also presented with a number of unique strengths. The facilitators reported feeling that it was easier for group members to be honest in the online setting, which increased disclosure. They found the medium to be highly accessible and convenient and felt that it was less anxiety provoking than face-to-face therapy, making it easier for avoidant clients to access and participate in therapy. Facilitator 3 summarised these sentiments with the following remark: *"I think many people find it easier to open up and disclose fears/worries via online medium, especially those who are normally anxious or avoidant. This helped in increasing engagement and participant cooperation I think"*.

Content and structure. The facilitators expressed their approval for the highly structured and manualised nature of the program. They noted that the weekly facilitator guides were easy to follow and helped to standardise the treatment. Having prepared scripts enabling cutting and pasting of text increased the pace. The content of the intervention was well received, with facilitators reporting that the readings and activities were clear, informative and helpful. Many facilitators reported that they would use the MoodGroup content in face-to-face sessions. However, the facilitators expressed concerns that there was too much content to be covered in too little time. They also reported that they found it difficult to balance the personal discussions with content coverage. As one facilitator stated: *"It was often hard to deliver all the content- especially when there were great discussions happening!"* (Facilitator 2). Consequently, they were unsure when to terminate conversations between group members in order to continue with the content. To assist with

these issues, they suggested that the content of each session be reduced, that more sessions be created or that the session length be increased.

Group environment. The facilitators expressed how much they had enjoyed facilitating and being part of the group interaction. They described the overall group climate as supportive, encouraging and validating and felt that the group environment significantly contributed to the observed improvements in their clients' mental health and wellbeing. For example, Facilitator 3 stated the following: *"I loved seeing the relationships between participants grow- the members of my group were so supportive of each other's recovery process".* The facilitators did however report that they found the high rate of attrition unsettling and disruptive to the group. They also questioned whether they were responsible for the high rate of drop out. One facilitator expressed that even though she realised that attrition was inevitable, she found it difficult not to take it personally. The biggest challenge in managing the group environment that was reported by the facilitators was containing outspoken clients and ensuring that all group members received equal opportunities to participate. The online nature of the group was seen to exacerbate difficulties in managing containment. The facilitators did however report that when the right balance was achieved it was rewarding to observe their clients supporting and encouraging each other. As Facilitator 4 stated: *"Seeing them reach their goals and help others reach theirs and support each other through it was very rewarding".*

Therapist factors. As all the MoodGroup facilitators were provisional psychologists, this was the first opportunity for many of them to lead a gCBT intervention. These facilitators reported experiencing great enjoyment engaging in group work for the first time. All the facilitators reported that it was a rewarding experience to watch the group develop and the group members progress and achieve their goals. They further reported that

developing therapeutic alliance online was far easier than initially anticipated and that risk management was not as difficult as expected. With time and practice, managing the group dynamics online reportedly became easier. The facilitators unanimously reported that they found working online to be less intimidating than face-to-face. They perceived the online environment to be less threatening and conducive to judgement, and felt that they had more time to think and reflect on the responses they both received and provided. One facilitator summarised these sentiments with the following statement: *"I didn't have the same 'nervousness' online compared to face-to-face, and having some of the cues taken out also meant that you had some of the cues that you're worried about getting judged about taken out. And you're able to think before you speak a little more* (Facilitator 1).

The facilitators did however report that it was stressful to acknowledge and respond to all of the group members' comments, especially when they occurred simultaneously. Facilitator 4 summarised her perspective by stating: *"Feeling as though I had to respond to everyone took way too much time and was rather stressful. At times I feared that people may not have felt 'heard' or felt ignored"*. The facilitators also expressed frustration at managing latecomers, as it was time consuming to update these group members. The facilitators also reported that they found it challenging to not have immediate access to a risk management supervisor. As many of the groups were scheduled outside of usual office hours, the facilitators often had to wait overnight to consult on non-urgent risk management issues with their clinical supervisor. This was reported to be stressful. The facilitators therefore suggested that a supervisor be available for consultation whenever MoodGroups were scheduled. They also suggested that a dual facilitator model be used, as this would assist with risk management and would make it easier to balance covering the session content with individual discussions. The facilitators also recommended that the facilitator training include management of group dynamics.

The facilitators were enthusiastic about their therapist-related gains because of their participation in MoodGroup. They felt that they developed a number of skills as clinicians, including delivering a CBT-based intervention, managing group dynamics and building rapport with their clients. They felt that the text-based nature of the intervention enhanced their ability to notice contradictions and challenge their clients. They also reported becoming less dependent on non-verbal cues and felt that these skills could be transferred into face-to-face settings. Facilitator 5 stated the following in relation to her therapist-related gains as a result of her participation in MoodGroup:*" I felt that I developed and consolidated my CBT skills. It also helped me to feel more comfortable with containing clients, and other CBT/counselling skills like challenging and noticing contradictions".*

Overall, the facilitators consistently reported that they enjoyed the experience of facilitating MoodGroup, and that they gained valuable skills as a result. The following quotes, from two facilitators provide a representative summary of the experience of facilitating the online group-based intervention

"I found the experience of facilitating MoodGroup overall very rewarding and a good experience whilst developing my CBT skills and developing my skills engaging with clients. This mode was interesting because it allowed me to focus on the content and process issues rather than my non-verbal micro counselling skills at t5he same time- a good opportunity when developing skills as a clinician l I feel. I felt that the group members benefitted from the program, and were able to create bonds with the other members, and generally feel very supportive of each other and acknowledge each other's efforts. This was very validating for most and I felt a very important part of the group program- the fact that there were others in a similar position through travelling different journeys. I am very grateful for the opportunity to have taken part in this" (Facilitator 4).

"I found the experience really valuable, in terms of consolidating my counselling micro skills and my CBT skills. I think I was able to apply what I learnt through working in an online environment to working in a face-to-face environment, which I didn't expect. I also loved being able to provide support to people who would not ordinarily seek out face-to-face support, or did not have access to support due to their location, help-seeking anxiety or ambivalence towards therapy. Overall, MoodGroup provided a really valuable experience in terms of personal and professional development, and what a great move forward for the field of psychology in general!" (Facilitator 2).

Clinical Supervisor's Perspective

The questionnaire with the clinical psychologist responsible for providing clinical supervision to the MoodGroup facilitators explored his overall impressions, expectations, views on the strengths and limitations of the online group model and recommendations for change and improvement. The content analysis suggested four main themes, namely comparison to face-to-face supervision, clinical issues, strengths and limitations and recommendations. Each of these will be discussed in turn.

Comparisons to face-to-face supervision. Although the clinical supervisor had 10 years' experience in the role, this was the first time he had provided clinical supervision for the online medium. As such, he experienced some doubts regarding his ability to transfer his face-to-face skills to the online context. Although he attended the training on using the virtual therapy room with the facilitators, he did not run a group himself. This limited his ability to provide guidance on technical issues. However, he reported there to be more similarities than differences in supervising across the two mediums. For example, he noticed that many of the issues discussed by the facilitators such as encouraging participant contributions or containing discussions commonly occurred in face-to-face clinical work. As

such, despite having no previous experience supervising online group therapists, he still felt able to provide high quality supervision and assist his supervisees to reflect on their clinical work. *"Although it was an online group, I noticed that the range of issues discussed by supervisees was common in face-to-face group settings too…As such, although my experience with online group therapy was limited, I still felt able to facilitate supervisee reflections on their clinical work"*.

Clinical issues. Although many of the clinical issues presented by the MoodGroup facilitators were similar to those encountered in face-to-face work, the supervisor noted a unique set of clinical challenges presented by the online environment. Facilitators needed to use a set of skills that they did not yet have experience with, such as providing therapy in the absence of non-verbal cues, managing group dynamics online and balancing group discussion on relevant issues with the session content. The supervisor reported that the facilitators appeared to have the greatest difficulty with finding this balance. Although this is also commonly experienced by face-to-face group therapists, the online medium likely exacerbated these difficulties owing to its slower pace and enhanced potential for tangential threads of conversation.

The supervisor also reported that the MoodGroup facilitators needed to develop additional skills to assess and manage risk online. In the absence of non-verbal cues they needed to carefully and constantly assess the content and tone of the group members' written contributions and learn to ask questions that were direct without being confronting. Related to this, they had to be more aware than usual of the potential for miscommunication and misunderstandings inherent with text-based communication. The facilitators also needed to learn to tolerate the uncertainty associated with situations such as a group member suddenly

disconnecting from the session or failing to respond to a follow-up email that expressed their concern.

Strengths and limitations. The supervisor perceived the MoodGroup intervention to have many associated strengths. The content of the intervention is well validated and as it involves synchronous contact with a facilitator and other group participants, the benefits of face-to-face work such as being immediately able to seek clarification, having group members challenge each other and building a supportive environment are not lost. It is also a medium that affords flexibility to both the group members and the facilitators in terms of accessibility and scheduling. As facilitators can work from home, evening and weekend groups are more feasible and safety concerns regarding clinicians working after hours are avoided. *"MoodGroup gives facilitators flexibility in organising times for groups. Evening groups become more feasible. This removes the problem of finding physical space for groups and also avoids any concerns with regards to safety of clinicians working after hours".* Additionally, group members can access a group-based intervention even if they live far from a treatment facility and the anonymity afforded by the online nature of the group may enhance disclosure among group participants. *"The anonymity of an online group might facilitate more open communication among group participants".*

The supervisor perceived the major limitation of the MoodGroup intervention to be the frequent experience of technical difficulties. This disrupted the flow of the sessions, prevented group members from accessing the sessions at times and increased the difficulties associated with risk management.

Recommendations. The supervisor recommended that in future, supervision take place in the virtual therapy room. Apart from the increased convenience and accessibility,

this will provide a valuable insight to supervisors on the experience of facilitating groups online, and may assist in their ability to provide technical guidance to their supervisees.

The supervisor also recommended a number of changes to assist with balancing the content of the session with group discussion. Perhaps most obviously, he recommended that the session content be reduced to allow for more time for informal chat. Additionally, he felt that having two facilitators would increase the pace of the session and assist in the management of risk and group dynamics. Finally, he recommended that facilitators use standardised cut-and-paste content when posting on the interactive whiteboard to save time and enhance treatment fidelity.

Discussion

This investigation explored the MoodGroup experience from the perspectives of its major stakeholders, namely the group members, facilitators and clinical supervisor. It aimed to describe the usability of the MoodGroup intervention and to obtain feedback and recommendations from its key stakeholders.

Usability Analysis: The Group Member Perspective

The first aim of this investigation was to describe the findings from the usability testing of the MoodGroup intervention. Results indicate that the MoodGroup intervention was well accepted and largely considered to be user-friendly and helpful. The group members consistently indicated that the content was relevant and helpful, the information clearly presented, the activities and discussions useful, the readings readily understood and that theory and practice was well-balanced. Indeed, the percentage agreement for the six usability statements summed across all nine sessions ranged between 81.51-84.62%. This is

indicative of an intervention high in both usability and feasibility (Kristjánsdóttir et al., 2011).

The finding that the aspects of the Introductory session received significantly lower satisfaction ratings than three other MoodGroup sessions is likely explained by the fundamental structural and content differences between the Introductory and remaining sessions. The Introductory session is essentially a preparatory session designed to familiarise group members with the technology, expectations, structure and format of the MoodGroup intervention. As such, compared with other sessions, it is lower in therapeutic content and higher in technical information. This session provides group members with their first impression of the intervention. Consequently, it is vital that it be favourably received. The structure of this session, together with its associated readings and activities therefore require careful review to increase its consistency with the other MoodGroup sessions. It may also prove useful to highlight the introductory nature of this session to the group members, and explain that future sessions will have a more therapeutic focus.

The feedback regarding each session's learnings indicate high concordance between the sessions' aims and learnings. Group members indicated that they grasped an understanding of the main concepts taught in each of the nine sessions. Despite cognitive skills only being formally introduced and explicitly taught from Session 4 onwards, many group members indicated learning about these skills in earlier sessions. This supports Tang and DeRubeis (1999) assertion that awareness about the impact of one's thoughts as well as cognitive modification techniques can occur in the initial stages of a CBT-based intervention in the absence of formal instruction. In the case of the MoodGroup intervention, it appears that providing a clear outline of the conceptual therapeutic framework in the early sessions created awareness for the group members about the importance of cognitive factors in managing their depression.

Consistent with feedback regarding the usability of other online interventions (Beattie et al., 2009; Kristjánsdóttir et al., 2011) MoodGroup members greatly appreciated the anonymity afforded by the intervention. Group members also indicated the presence of a therapeutic group environment. Results from usability investigations into individual online interventions indicate strong approval ratings for the quality of the therapeutic alliance that develops between online therapists and clients (Beattie et al., 2009; Currie et al., 2010; Kristjánsdóttir et al., 2011; Long & Palermo, 2009). The consistently positive feedback from MoodGroup members regarding the supportiveness and understanding of the group extends upon these findings by demonstrating the presence and acceptability of a therapeutic group environment online.

Although the usability ratings of the MoodGroup intervention were generally high, a number of content and medium-specific issues emerged. The major content-specific issues identified related to the volume of content provided, difficulties in mastering the skills and the nature of the readings. Although the readings were reported to be informative and useful, many group members found them to be too simplistic and would have preferred them to be adapted to an Australian context.

The medium-specific issues identified mainly centred on the experience of technical difficulties and frustrations at the slow pace. The group members commonly reported their experience was hampered by technical difficulties including slow internet connections, drop-outs and being unable to master the technical functions of the virtual therapy room. The chat feature was particularly problematic with many participants reporting having difficulty following the stream of conversation because the chat box was too small and the scrolling feature did not automatically update when new comments were entered. The group members also expressed frustration at the delays the experienced whilst waiting for others to respond.

There appeared to be a lack of consensus amongst group members regarding their desire to focus more on the content of the session or more personal discussion. Although this is a dilemma that is perhaps common in group work, it is likely that the slower pace of the online environment exacerbated the issue.

The group members also differed in their opinions regarding the optimal size of the group. Some individuals reported that smaller groups of around three to four members facilitated communication and in-depth discussion. However, others reported feeling increased pressure to participate in smaller groups, and disliked being unable to "hide" behind other participants. Clearly, the ideal size of the group will require careful consideration when designing future online group interventions.

In conclusion, the results from this usability analysis indicate that the MoodGroup intervention was well received and accepted by the group members. Although some technical difficulties occurred, participants engaged with the technology and enjoyed the experience of being in an online setting. The content, discussions and activities were well liked although further consideration is required to determine the optimal length of session as well as the ideal number of sessions and group members. Valuable suggestions for improvement were also provided, including the need to update the readings to an Australian context and provide an ongoing forum for continued support following the conclusion of the formal MoodGroup sessions.

The Facilitator Perspective

The second aim of this investigation was to examine the experience of group facilitators, exploring the factors that enhanced and detracted from their online therapeutic experience. The results from the focus group conducted with five MoodGroup facilitators indicated that, in general, the experience of facilitating an online CBT-based group

intervention was perceived to be valuable, enjoyable and rewarding. The facilitators were able to articulate what they liked most and least about facilitating the intervention, its perceived strengths and limitations and what they felt they had gained from the experience. They also provided a number of suggestions for improvement. For the most part, their experiences were consistent with findings from other studies investigating the perspectives of online therapists.

Cook and Doyle (2002) and Fletcher-Tomenius and Vossler (2009) reported the perception of a strong therapeutic alliance by counsellors involved in individual online interventions. The present research extends these findings, demonstrating that a positive working alliance is possible within an online group-based environment. Consistent with the findings from these two studies, the MoodGroup facilitators reported that the establishment of a solid therapeutic alliance was easier than expected, and was aided by the anonymity and accessibility afforded by the online medium. The facilitators described the relationships formed within their groups as being nurturing, supportive and understanding.

Consistent with prior research (Bambling et al., 2008; Cook & Doyle, 2002; Fletcher-Tomenius & Vossler, 2009), the MoodGroup facilitators reported having difficulty with the lack of non-verbal cues. Without facial expressions and body language, facilitators had difficulty tracking the emotional state of group members and were at times unsure about whether they required further assistance or had obtained a thorough understanding of the course material. They also expressed concern about their ability to assess and manage risk in an environment where non-verbal cues are absent. However, upon reflection the facilitators acknowledged that risk management online was more similar than it was different to face-to-face settings.

Consistent with the findings from Fletcher-Tomenius and Vossler (2009) and the group members themselves, the MoodGroup facilitators reported feeling less judged and more comfortable in an online versus face-to-face setting. The online environment was perceived to be less threatening to facilitators, allowing them time and space for reflection. The MoodGroup facilitators were all provisional psychologists who lacked extensive clinical experience. The finding that they perceived online settings to be more confidence boosting and less intimidating than face-to-face has important clinical implications. It suggests that the online medium is an appropriate setting to commence client-based work. Further research with experienced group therapists is however required to determine whether the experience of greater comfort counselling online is specific to emerging therapists.

Previous research regarding the experience of counselling online has revealed that although therapists appreciate the convenience and accessibility of working in their home environment, they also experienced greater than usual difficulties maintaining their professional boundaries (Haberstroh et al., 2008). This was also true for the MoodGroup facilitators. According to the facilitators, two main factors increased their difficulties in maintaining their boundaries. The first was that the majority of the sessions happened after usual office hours or on the weekends. This meant that the facilitators did not have immediate access to their clinical supervisor for debriefing or discussion of difficult issues. Consequently, the facilitators reported thinking about their clients more than usual outside of their sessions. The second factor related to the online environment, which lacked the physical cues normally associated with ending a session such as walking to the door. It was therefore common for some clients to remain in the online room after the session's conclusion. The facilitators reported that it was difficult to disengage from these clients. Consequently, their contact with them extended into their personal time. These findings

suggest that online therapists require additional training in the management of their professional boundaries within the context of working online.

As predicted, the MoodGroup facilitators reported that the group-based nature of their therapeutic work added to the complexity of providing counselling in an online environment. Managing the group dynamics online appeared to be their biggest challenge, although the facilitators did concede that this skill that improved with time. They reported having difficulty in stopping group members from typing over the top of each other, which resulted in fragmented and disjointed conversations. The group members, who stated that it was challenging to keep track of multiple streams of conversation, also reported this difficulty. The absence of non-verbal cues such as head nods meant that the facilitators felt pressured to provide a written acknowledgement of each group member's contribution. This was time consuming and disrupted the flow of conversation. Consistent with feedback from the group members, the facilitators also reported having difficulty balancing discussions with the session content. The slower pace of the online environment exacerbated this concern. To remedy this, some facilitators suggested the provision of a supportive online space separate to the structured sessions. This would allow group members to remain focussed on content within the formal group sessions, whilst still providing them with the opportunity to engage in relevant discussions outside of sessions. Feedback from group members indicated that they too desired an ongoing supportive online space.

Despite the challenges presented to them by the online, group-based medium, the MoodGroup facilitators unanimously reported their experience to be one that was enriching and that helped to develop their clinical skills. These sentiments are consistent with the experiences of online counsellors in individual settings (Bambling et al., 2008; Haberstroh et al., 2008). The online setting provided these provisional psychologists to thoroughly work through a CBT-based intervention with the assistance of prepared scripts and facilitator

guides, allowed for increased time for reflection, sharpened their skills in relation to noticing contradictions and challenging clients and decreased their reliance on non-verbal cues. The MoodGroup facilitators reported that it was rewarding to watch the progress of individual group members and the progression of the group as a whole.

The Clinical Supervisor Perspective

The third aim of this investigation was to examine the experience of the MoodGroup clinical supervisor, exploring perceived challenges, gains and suggestions for improvement. The findings are consistent with much of what is emerging in the literature on the supervision of online therapists. For example, Haberstroh and Duffey (2011) and Oravec (2000) also highlighted the importance of assisting their supervisees to provide effective therapy in the absence of non-verbal cues. This novel skill takes time and practice to master. However, it is vital for the development of a strong therapeutic alliance and adequate risk management practices. The results from this research clearly demonstrates the need for supervisors to provide guidance on asking questions in a direct but non-confrontational manner, recognising and clarifying misunderstandings and challenging clients whilst maintaining empathy.

Like Haberstroh and Duffey (2011), the MoodGroup supervisor reported that there were more similarities than differences when comparing the process for supervising online versus face-to-face therapists. This has important implications as it means that experienced clinical supervisors will likely not need extensive additional training to provide high quality supervision to their supervisees who engage in online work.

However, it is important that supervisors develop an awareness of the unique issues involved with supervising online work. The findings from this, and other studies, into online therapy indicate that therapists will likely have difficulties in maintaining their professional boundaries when working from home. They will therefore require additional support in

upholding the boundaries between their private and professional lives. In all probability, supervisees will require guidance into the management of risk in the online environment and will need to be supported to tolerate the uncertainty that occurs when clients disconnect from a session unexpectedly or fail to respond to follow-up emails. Supervisors will also be required to familiarise themselves with the technology utilised by their supervisees so that can provide guidance on technical issues.

In traditional supervision involving face-to-face work, supervisors are typically guided by their supervisees reports of what transpired within the session, or by viewing recordings of the session. With online therapies, supervisors can access written session transcripts. These transcripts do not provide an indication of the pacing within the session but they do accurately reflect the content of the session. Supervisors need to be able to look for relational connections within this content between supervisee and client and assist their supervisees to establish an environment that is empathic yet direct and supportive without being too informal.

Consistent with reports from the MoodGroup facilitators themselves, the clinical supervisor found the online medium to be an ideal environment for developing the skills of provisional psychologists. The prepared content allows for greater focus on process issues and the slower pace of the medium increases opportunities to reflect on content. Supervision of provisional psychologists is facilitated by a careful review of session transcripts. Given the difficulties in obtaining clinical placements for provisional psychologists, and the apparent transferability of face-to-face supervision skills to an online context, it seems that providing online clinical placement opportunities is an ideal way to further the skills of emerging mental health practitioners.

Limitations

This investigation presented a number of limitations that should be considered when interpreting its findings. The first pertain to the use of Likert scales. Whilst an effective and efficient means to obtain opinion-based information, Likert scales lend themselves to three major biases in responding, namely the central tendency bias, the acquiescence response bias and the social desirability bias. With the central tendency bias, respondents may avoid using extreme response categories. They may agree wholeheartedly with the statements as presented, which is the acquiescence response bias. Respondents may also try to portray themselves in a more favourable light. This is known as the social desirability bias (Baumgartner & Steenkamp, 2001). The findings from the present investigation indicate the frequent endorsement of the 'Strongly agree' item, suggesting that the central tendency bias was not common; although it is possible that both acquiescence response and social desirability biases occurred. The questionnaires were completed anonymously, which reduced the likelihood of these biases occurring.

The second limitation of Likert scales is that the distance between each response choice is not precisely equal. Although the responses were presented along a continuum ranging from 'Strongly agree' to 'Strongly disagree', it cannot be determined, for example, how much greater 'Agree' is when compared with 'Strongly agree'. It is therefore difficult to assign precise meanings to the ratings used in the questionnaires (Busch, 1993). However, the questionnaire data does allow for comparisons between sessions to be made, allowing inferences regarding the usability and acceptance of each session to be made.

This research presented with a number of sampling issues. For obvious reasons, only those group members who participated in the sessions completed the session evaluation questionnaires. Exit interviews with those who dropped out of the intervention were not

conducted owing to time and resource limitations. Given that the majority of attrition occurs because of client dissatisfaction or a failure to perceive progress (Pekarik, 1992), the positive responses and feedback received may not necessarily have reflected all group members' experiences, only those who stayed on and were likely satisfied with the intervention. Although the perspectives of the facilitators were well-represented, with five out of the six MoodGroup facilitators participating in the investigation, all of these facilitators were provisional psychologists lacking experience with group work and online interventions. Further research is therefore required with experienced group therapists. The final sampling issue relates to the clinical supervisor. There was only one MoodGroup supervisor, which limits the generalisability of the findings related to the experience of supervising online group therapists. Again, further research with a greater number of clinical supervisors is indicated.

Further limitations of this investigation involve the way in which data were collected and analysed. The primary author conducted the focus group with the facilitators and was solely responsible for the content analysis. Although this is both time and cost effective, it is problematic for several reasons. As the facilitators were aware of the primary author's involvement with the MoodGroup intervention, they may have felt unwilling to provide an unfavourable report of their experience. Ideally, the focus group should have been conducted with an investigator unknown to the facilitators. However, as this was neither practical nor feasible, the facilitators were given the option of using a user-name in the online classroom in an attempt to maintain their anonymity and increase the honesty of their disclosures.

Ideally, content analysis is conducted by two or more investigators. This is important as a demonstration of concordance in coding between multiple investigators enhances the validity and reliability of the text classification. Having only one investigator increases the likelihood of biased or inaccurate coding and decreases the reliability of the findings (Morris, 1994). The impact of having only one investigator conduct the content analysis was however

ameliorated by careful supervision. The findings from the content analysis were reviewed by the investigator's two research supervisors. Their agreement with the codes enhances the reliability of the inferences drawn from the data.

The final limitation of this investigation involves the sole use of questionnaires to elicit the group members' feedback regarding the usability and acceptability of the intervention. Questionnaires are frequently used in usability trials as they are a practical and efficient way to collect large quantities of information. However, their use presents with some disadvantages. The questionnaire items were worded in a simple and straightforward manner and as a result, it is unlikely that they were subject to misinterpretation. However, should confusion arise, clarification cannot be provided. Similarly, the investigator is unable to clarify responses from respondents, which increases the likelihood of misinterpretations or misunderstandings. Additionally, questionnaires afford little opportunity for respondents to provide an in-depth presentation of their perspectives on issues (Marshall, 2005). It may therefore prove helpful for future research to include focus group discussions in conjunction with questionnaires to obtain participants' feedback.

Recommendations

Despite these limitations, this research provides valuable insights into the experience of participating in, facilitating and supervising an online group therapy intervention. These insights assist in guiding suggestions for improvement and recommendations for future versions of MoodGroup. These recommendations are discussed below.

Content. Although the content of the sessions and readings were generally well received, there were recommendations for improvement. Specifically, it is recommended that the readings be reviewed to ensure they are easy to understand without being condescending. The language should also be made more appropriate to an Australian audience. The

information contained in the readings could also be presented via an interactive web-page. This has the potential to heighten interest, increase engagement and create a more active learning environment.

The facilitators commonly reported having difficulty covering all of the intended session content and the group members frequently requested having more time to engage in free discussions. It was therefore recommended that the session content be decreased. This would increase the time available for discussions and allow the facilitators more time to acknowledge all responses from group members. One way in which in-session content could be reduced would be to provide more out-of-session content using an interactive web-page, as was suggested by the group members. This could potentially reduce the time spent by facilitators in explaining CBT concepts, and increase in-session discussion time.

The significant differences in approval ratings between the introductory and other sessions indicate that changes are required. Group members need to be prepared for the introductory nature of the initial session. The associated readings need to be made more user-friendly and informative, and both group members and facilitators should be allowed time to explore the virtual therapy room prior to their initial session.

Group size. Despite there being little consensus regarding the ideal size of the groups, comments from the stakeholders indicated that groups with approximately five members were preferred. Groups that were bigger than this were perceived by the group members to be too impersonal whilst the facilitators reported that in larger groups, it was difficult and time consuming to acknowledge everyone's contributions, and the potential for tangential conversations was increased. The group members were however reluctant to be part of very small groups as they experienced greater discomfort and increased pressure to participate in these environments. Groups of five members should enable facilitators to

acknowledge and manage the streams of conversations whilst allowing group members to contribute without feeling pressured. This recommendation is relevant when only one facilitator is present. The addition of another therapist would likely mean that the group size could be increased.

Additional opportunities for further discussion and continued support. Given the difficulties reported by both group members and facilitators regarding achieving a balance between session content and group discussion, it is recommended that MoodGroup participants be provided with another forum for online interaction outside of the designated sessions. This could take the form of a message board and chat room. This would enable MoodGroup members to continue their discussions outside of the sessions, which would in turn allow facilitators to focus on the content within the sessions. Additionally, it would provide an ongoing source of support following the conclusion of the intervention. This is important as both the facilitators and the group members expressed their desire for group members to be able to continue to support each other after their formal sessions had ended.

Dual facilitation. Both the facilitators and the clinical supervisor recommended that two therapists facilitate the groups, particularly when they comprise more than five members. This would assist to manage group dynamics and would likely increase the pace of the session. It would also be useful in managing risk, as one facilitator could conduct a risk assessment with the affected individual whilst the other could continue to facilitate the group. Having two facilitators would also allow the pairing of provisional psychologists with more experienced psychologists.

Online supervision. The clinical supervisor recommended that rather than engaging in traditional face-to-face supervision, the supervision be conducted online using the same

technology as the group sessions. This would likely increase the supervisors' understanding of the requirements and demands of conducting group therapy online and would allow the supervisor to assist with associated technical issues. Additionally, it would increase the convenience of providing or accessing supervision. Ideally, clinical supervisors would also have experience in running their own online therapeutic groups prior to providing supervision to online supervisees.

Summary and Conclusions

This investigation addressed the fourth research question posed in this thesis. It provided an in-depth analysis of the MoodGroup experience from the perspectives of its major stakeholders, namely the group members, facilitators and clinical supervisor. The usability of the intervention was investigated and the insights and feedback obtained from the stakeholders guided recommendations for change and improvement. The themes that emerged from these three stakeholders tended to overlap, and the feedback was very consistent as a result.

The usability analysis indicated that MoodGroup was well-accepted and perceived to be user-friendly and helpful. The percentage agreement for the six usability statements regarding the relevance and helpfulness of the content, clarity of the information presented, usefulness of the activities and discussions, ease of comprehension of the weekly readings and appropriate balance between theory and practice was high, ranging between 81.51-84.62%. The usability ratings did however differ between sessions, with the introductory session rating lower than several of the other sessions with regard to the balance between theory and practice and the usefulness and ease of understanding of the associated readings.

Feedback from the group members revealed a high concordance between the sessions' aims and learnings, with the group members indicating that they grasped an understanding of

the main concepts taught in each of the nine sessions. The content, activities and discussions were all well liked, although disagreement existed as to whether sessions should have a greater focus on structured content or supportive discussion. Despite some technical difficulties, the group members enjoyed their online classroom experience and perceived the group environment to be supportive and understanding.

The group member feedback uncovered a number of content and medium-specific issues. The main content specific issues identified related to the large volume of content provided, difficulties in mastering the skills and dissatisfaction with aspects of the weekly readings. The main medium-specific issues centred on the experience of technical difficulties and frustration with the slow pace. Despite these issues, the feedback from the group members was overwhelmingly positive and indicated that the intervention was well received.

The facilitator focus group investigated what the MoodGroup facilitators liked most and least about facilitating the intervention, its perceived strengths and limitations and what they felt they gained from the experience. For the most part, their experience was consistent with the findings from reports investigating the perspective of the online therapist engaging in one-on-one work. This investigation however provided a group-based perspective and highlighted the complexities of providing group therapy in an online environment.

In general, the experience of facilitating MoodGroup was perceived to be valuable, enjoyable and rewarding. The facilitators reported that the establishment of a solid therapeutic alliance was easier than expected, despite the difficulties they encountered with the lack of non-verbal cues. They further reported that risk management was more similar than it was different to face-to-face settings.

All MoodGroup facilitators were provisional psychologists lacking extensive experience conducting gCBT interventions. The online environment was perceived to be an

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ideal setting for gaining this experience as it was reportedly non-threatening with less space for judgement and more time for reflection. Facilitators appreciated the convenience of working from home although they acknowledged that it was harder to maintain their professional boundaries in this setting. The facilitators also reported having difficulty managing the group dynamics online, although this skill appeared to improve with time. They felt that reducing the session content would assist with managing the contributions of group members and allow more time for unstructured discussion.

The findings from the interview with the MoodGroup clinical supervisor revealed there were more similarities than differences in providing supervision to online versus face-to-face therapists. However, it is crucial that supervisors develop an awareness of the unique issues involved with providing supervision for online work, such as managing the lack of verbal cues, maintaining professional boundaries whilst working from home and dealing with the uncertainty that arises when clients disconnect from sessions unexpectedly or do not respond to follow-up emails.

The feedback provided from this investigation resulted in a number of suggestions for improvement. Consequently, recommendations were made regarding the ideal size of online therapeutic groups, number of facilitators, therapeutic content, additional avenues for online support and supervision options.

In conclusion, the findings provided valuable insights into the experience of undertaking, facilitating or supervising an online group-based CBT intervention for depression. MoodGroup was well received by its major stakeholders and their feedback and suggestions for improvement will help to guide future versions of the intervention.

Chapter 8: Final Conclusions

Chapter Overview

This chapter provides a final summary of the thesis and concluding remarks. It reviews the findings of the four research questions and presents the core themes emerging from this research. Based on the learnings from this thesis a comprehensive set of recommendations for the development and implementation of future online therapeutic groups are provided. Additionally, this chapter provides a summary of the key limitations of this research, directions for future studies and implications for the discipline.

Review of Research Questions

This thesis aimed to investigate the efficacy, group processes, pattern of response and participation experience in MoodGroup, an online CBT-based group therapeutic treatment for the treatment of depression in Australian adults. The following four research questions were posed:

1. How efficacious is MoodGroup in the treatment of adults with clinically significant symptoms of depression?

2. How do online and face-to-face group processes compare and can online group process variables predict therapeutic gains?

3. Is the onset of response to online gCBT similar to face-to-face trends and does early treatment improvement predict therapeutic gains?

4. What can be learnt from the experience of MoodGroup from the perspectives of its group participants, facilitators and clinical supervisor?

The efficacy of MoodGroup was addressed in the Chapter 4. The findings from this non-randomised controlled trial indicated that participation in MoodGroup significantly

improved QoL in Australian adults with clinical symptoms of depression. Symptoms of depression and psychological distress, behavioural activation and maladaptive cognitions were more improved for the treatment group than the WLC. Furthermore, significantly more participants in the treatment group achieved clinically significant improvement on the overall measure of psychological distress and its sub-category of depression than those in the WLC. Encouragingly, those in the treatment group demonstrated significant reductions in their symptoms of depression, overall psychological distress, stress, maladaptive cognitions and improvements in their QoL and behavioural activation at six-month follow up. These findings indicate that MoodGroup created meaningful improvements in the lives of its recipients that were maintained over time. The results demonstrated the potential of an online gCBT intervention to reduce depression and its associated symptoms.

The second research question was examined in Chapter 5, exploring the development of group climate trends in MoodGroup and comparing these to what is typically observed in face-to-face gCBT interventions. Additionally, this investigation examined whether group climate trends predicted therapeutic outcomes immediately after the conclusion of MoodGroup and at six-month follow-up. The findings demonstrated that online group processes develop similarly to those observed in successful face-to-face gCBT interventions. Specifically, *engagement* increased in a significant linear trend and *conflict* increased and then decreased in a significant quadratic trend. Although not significant, *avoidance* decreased throughout the intervention. These findings demonstrate the MoodGroup members became more cohesive, better managed their conflict and assumed greater responsibility for their change process as the intervention progressed.

This chapter additionally demonstrated that group climate variables play an important role in predicting both short and longer-term outcomes in an online gCBT intervention for depression. Reduced overall psychological distress was predicted by both higher ratings of

engagement and reduced ratings of conflict at post-treatment. Reduced avoidance ratings predicted reductions in depression and overall psychological distress, and improvements in QoL at the six-month follow-up point. Furthermore, reduced overall psychological distress and improvements in QoL at six-month follow-up were predicted by higher ratings of engagement and reduced ratings of conflict. These findings imply that, as with face-to-face interventions, online group dynamics can influence therapeutic outcomes and should therefore be closely monitored by group facilitators.

Chapter 6 investigated the onset of treatment response to MoodGroup. This investigation examined the third research question, exploring the relationship between onset of improvement and treatment outcome at post-treatment and six-month follow-up, and comparing these patterns to those typically observed in face-to-face groups. Additionally, this investigation examined the characteristics related to differential response to the MoodGroup intervention. The findings demonstrated that, similar to face-to-face gCBT, the majority of MoodGroup participants experienced improvement in their depressive symptoms within the first four weeks of active treatment. Furthermore, stability of treatment response was more likely to be experienced by those who achieved early improvement. Both immediate and longer-term therapeutic gains were predicted by early improvement. This investigation also demonstrated that having confidence in one's ability to use the internet and experiencing a reasonable pre-treatment QoL were two characteristics associated with the experience of early improvement in the MoodGroup intervention.

These results have a number of clinical implications. The finding that the bulk of symptom improvement occurs within the first four weeks of active treatment may justify trialling a shortened version of the MoodGroup intervention and could educate group members about the anticipated trajectory of their treatment response. As the non-achievement of early improvement places individuals at risk of poor overall outcomes,

facilitators should identify those who have not achieved early improvement and adapt their treatment to maximise therapeutic gains.

Chapter 7 addressed the fourth research question using a mixed-method approach to explore the MoodGroup experience from the perspectives of its major stakeholders, namely the group participants, facilitators and clinical supervisor. This investigation also examined the usability of the MoodGroup intervention. In general, the feedback from group participants was positive and indicated high usability and acceptability ratings for the MoodGroup intervention. The group members quickly adapted to the technology used in the intervention and were particularly appreciative of the anonymity, convenience and supportive online group environment.

The feedback from the MoodGroup facilitators was similarly positive, with facilitators consistently reporting that they enjoyed the experience of facilitating MoodGroup, and that they gained valuable skills as a result. The challenges of facilitating in an online group environment mainly centred on boundary setting, balancing therapeutic discussions with session content, managing different streams of conversation and attending to all group members equally. As provisional psychologists, the facilitators found the experience of conducting therapy online to be less intimidating than in face-to-face settings, and stated that this medium allowed them to hone their therapeutic skills and provided more time to reflect on the responses they both received and provided.

The MoodGroup clinical supervisor provided valuable insights regarding comparisons to face-to-face supervision, clinical issues, strengths and limitations and recommendations. Once again, the feedback was positive and indicated that the process of facilitating online therapeutic groups was more similar than it was different to face-to-face treatment modalities. This implies that clinical supervisors can easily adapt their existing supervisory skills and do

not need extensive online training in order to be effective supervisors of online interventions. The specific clinical issues noted for the MoodGroup intervention related to the provision of therapy in the absence of non-verbal cues, managing group dynamics online and balancing group discussion on relevant issues with the session content. The main strengths of the intervention were perceived to be its convenience, flexibility and the immediacy of therapeutic content. The frequent experience of technical difficulties was perceived to be the major limitation of MoodGroup. This investigation also provided a number of valuable recommendations from the key stakeholders, which will be discussed in more detail later in this chapter.

Core Themes

The following section discusses the core themes that emerged throughout this thesis, namely comparisons to face-to-face gCBT interventions, contributions to CBT literature, management of suicidality online and affordances and limitations of MoodGroup.

Comparison to face-to-face gCBT interventions. The collective findings from this thesis highlighted the overall similarities between online and face-to-face gCBT interventions for depression. However, a number of key differences between these modalities were also observed**,** as will be discussed below.

Attrition. The overall rate of attrition for participants in the treatment group was 57.89%, with 33.33% of individuals not commencing the MoodGroup intervention after being assigned to it and a further 24.56% of individuals commencing but not completing a MoodGroup. The average attrition rate for clients accessing face-to-face treatment for depression in individual or group-based settings is 32% (Elkin, 1994; Elkin et al., 1989), with attrition rates of up to 47.30% being reported for face-to-face gCBT interventions for depression (Oei & Dingle, 2008) . The way in which attrition is calculated does however

vary between studies. Some studies include non-commencers in their overall attrition rates whilst others only include those who commenced but did not complete the intervention. The studies cited above did not explicitly state how their attrition rates were calculated. It is therefore difficult to make comparisons between the rate of attrition in MoodGroup and similar face-to-face interventions.

Regardless of face-to-face comparisons, the rate of attrition in MoodGroup was still higher than desirable. The efficacy trial in Chapter 4 provided a number of possible explanations for the attrition rate. These included severity of depression, the online setting, technical difficulties, lack of engagement, experience of symptom improvement and being unprepared for the amount of time that MoodGroup required. Pertinent findings from the remaining investigations in this thesis will now be explored to extend this discussion.

In Chapter 4, it was noted that participants did not cite dissatisfaction with MoodGroup as a reason for discontinuing the intervention. This suggests that factors apart from program satisfaction were responsible for the demonstrated rate of attrition. The findings from the usability trial in Chapter 7 support this assertion. In sum, the results from this usability analysis indicated that the MoodGroup intervention was well received and accepted by its participants, which suggests that the usability and acceptability of the intervention did not meaningfully contribute to MoodGroup's rate of attrition. However, it is important to address the key medium and content-specific issues that emerged from this analysis as these difficulties may have influenced participants' decisions to leave the intervention. These include the high volume of content provided, difficulties in mastering the skills, the simplified nature of the readings, experience of technical difficulties and frustrations at the slow pace. Strategies to overcome these issues will be addressed in the 'Recommendations' section of this chapter (pp.325-331).

Oei and Kazmierczak (1997) suggest that levels of engagement within a group setting contribute towards participant drop-out. In their study investigating the factors associated with attrition in a face-to-face gCBT intervention, these authors reported that those who completed the intervention participated more freely and were less withdrawn than those who dropped out. The second investigation in this thesis, which analysed group processes, did not compare the group climate characteristics of completers versus non-completers as this was beyond the scope of the research presented in this thesis. However, the mean group climate scores for engagement in the MoodGroup intervention was 3.34 ($SD = 1.15$), which is between the mean engagement scores of 4.09 ($SD = 0.68$) and 2.82 ($SD = 0.85$) reported in the face-to-face gCBT interventions for binge-eating disorder (Tasca et al., 2006) and social phobia (Bonsaksen et al., 2011) respectively. The respective rates of attrition for these interventions were 21.28% and 20.0%, which is lower than the attrition rate demonstrated in the MoodGroup intervention. The comparability of the MoodGroup engagement scores with these face-to-face gCBT interventions suggests that the level of participant engagement within MoodGroup did not meaningfully contribute to its attrition rate. However, further quantitative analysis is required to substantiate this claim.

In Chapter 4, it was suggested that participant improvement could have been a contributing factor towards MoodGroup's attrition rate. According to Pekarik (1983a), participants who achieve meaningful improvement in their psychological symptoms are likely to discontinue their participation in the intervention prematurely. Chapter 6 demonstrated that the majority of MoodGroup participants experienced symptom improvement by the fifth week of the intervention which, as mentioned in Chapter 4, was also the point by which the bulk of participants had withdrawn from the intervention. These findings lend further support to the assertion that for some participants at least, premature withdrawal from MoodGroup was driven by the experience of symptom improvement.

The discussion on attrition in Chapter 4 mentioned that participants cited the experience of technical difficulties as a reason for prematurely withdrawing from the MoodGroup intervention. The results from the usability analysis in Chapter 7 indicated that technical difficulties were a commonly cited source of discontent for MoodGroup participants. Although efforts were made to alleviate technical difficulties, including providing participants with access to the RMIT University technology helpline and a detailed introduction to the virtual therapy room with associated activities and instructional readings, it is still likely that the experience of technical difficulties contributed in part to MoodGroup's rate of attrition.

Efficacy. The findings from the efficacy trial (Chapter 4) revealed that symptoms of depression and psychological distress, maladaptive cognitions and behavioural activation were more improved for the treatment group than the WLC. Additionally, a significant difference between the treatment and control groups was found for QoL. A greater percentage of individuals in the treatment group obtained clinically significant outcomes compared with those in the WLC and treatment gains were largely maintained over time. These findings indicate that MoodGroup has the potential to create meaningful and lasting improvement in the lives of its participants. However, the effect sizes demonstrated in this intervention were smaller than is typically observed in face-to-face gCBT (Oei & Dingle, 2008). The efficacy trial in Chapter 4 provided a number of possible explanations to account for this finding. Focussing on symptom severity and the format of the MoodGroup intervention, relevant findings from the remaining studies will now be explored to extend this discussion.

Although group therapy can positively impact those with severe depression (Rush & Watkins, 1981), it has traditionally been found to be more effective for those with mild to moderate depression (Cuijpers, van Straten, Andersson, et al., 2008). Indeed, an analysis of

the 33 studies included in Oei and Dingle's (2008) review of gCBT demonstrating an average pre-post effect size of 1.30 revealed that close to 50% of these studies excluded participants with severe depressive and/or suicidal ideation or included participants with sub-clinical levels of depression. Individuals in the MoodGroup intervention were required to have clinically relevant depressive symptoms and were not excluded if their symptoms were severe or they experienced suicidal ideation. For the sample as a whole, the mean baseline MDI (*M* =29.87, *SD* = 9.43) and DASS-D (*M* = 23.50, *SD* = 9.24) scores were reflective of severe depression (Lovibond & Lovibond, 1993; Olsen et al., 2003). This indicates that the average participant was more than mildly to moderately depressed. Furthermore, as screening for comorbid diagnosis did not occur, it is likely that some participants experienced additional psychiatric disorders, another common exclusion criterion in face-to-face gCBT studies. Thus, the psychiatric profile of the MoodGroup participants was in all likelihood more severe than many of their face-to-face counterparts, which may have weakened the results of the efficacy trial.

The efficacy trial (Chapter 4) revealed that those who completed the MoodGroup intervention had significantly lower MDI scores at pre-treatment than those who failed to commence the intervention. Similarly, in Chapter 6 it was revealed that those who achieved early improvement on the MDI had significantly higher baseline QoL scores compared with non-early improvers. This chapter further revealed that early improvement predicted favourable treatment outcomes, and that lack of early improvement predicted an inability to maintain a stable treatment response. Collectively, these findings suggest that individuals with a more severe depressive profile were less likely to obtain benefits from MoodGroup compared with those with milder symptoms. The inclusion of individuals with severe depression into MoodGroup may partially account for the pre-post effect sizes that were smaller than is typical for face-to-face gCBT interventions.

The efficacy trial in Chapter 4 also proposed that the format and structure of the MoodGroup intervention might have weakened its efficacy. Unlike face-to-face gCBT, where course material is handed out and worked through on the day of the session, MoodGroup participants received pre-readings a week in advance of their session and were expected to independently work through this material in addition to completing homework activities. Although this approach maximised opportunities for therapeutic discussions and activities, it required a high amount of self-direction and independent study that may have been challenging for those experiencing the motivational and cognitive deficits that typically accompany a depressive episode. Indeed, the feedback obtained from the usability trial in Chapter 7 indicated that at least some of the MoodGroup participants found the course content to be overwhelming, and were unprepared for the time that was required by the pre-readings and homework activities. Additionally, both the facilitators and MoodGroup participants commonly reported that the slow pace of the text-only communication made it difficult to cover all of the session's content. This placed an added burden on participants to work independently through the material that remained uncovered within the session. Furthermore, excluding session content decreases treatment fidelity, which in turn may have negatively affected the intervention's efficacy (Miller & Binder, 2002).

Group processes. This thesis provided a meaningful contribution to the scant research on online group processes in therapeutic groups, and demonstrated that the online group processes that developed through the MoodGroup intervention were mostly similar to those observed in successful face-to-face gCBT interventions. It was further demonstrated that a positive, robust and therapeutic group climate was be created online.

Chapter 5 provided a quantitative analysis of the group climate variables in the MoodGroup intervention. The key findings from this analysis revealed that that participants became significantly more engaged with each other over the course of the intervention and

became more adept at expressing and solving their interpersonal conflicts. Furthermore, they assumed greater responsibility for their therapeutic change processes over time. These trends are consistent with those observed in face-to-face gCBT interventions for a variety of disorders (Bonsaksen et al., 2011; Raue, 1997; Tasca et al., 2006). Furthermore, as is commonly demonstrated in face-to-face gCBT interventions (Castonguay et al., 1998; Hand et al., 1974; Ogrodniczuk & Piper, 2003; Taft et al., 2003; Taube-Schiff et al., 2007), online group climate variables played an important role in predicting short and long term therapeutic outcomes for the MoodGroup intervention.

The qualitative analysis undertaken in Chapter 7 provided further insight into MoodGroup's online group processes, and their comparability to those observed in face-to-face interventions. In this investigation, the MoodGroup participants consistently reported that they found the group environment to be positive, supportive, therapeutic and validating; and they recognised that their feelings of comfort and engagement increased as the intervention progressed. The participants noted that they became increasingly adept at managing conflict and miscommunications and many reported that they benefited from being challenged by other group members. As is common in face-to-face group interventions (Toseland & Rossiter, 1989), MoodGroup participants frequently expressed a desire to remain in contact after the conclusion of the intervention. In an effort to continue to support each other, one group established a private online support group using a popular social media application. The feedback from this investigation provided valuable insight into the strength and quality of the connection between group members and indicates that a cohesive and therapeutic group environment can be created online.

The facilitator feedback obtained in Chapter 7 provided further insight into MoodGroup's group climate. Like the group members, MoodGroup facilitators consistently commented on the positive and supportive atmosphere that developed in their groups, and

described the relationships between group members as being supportive and therapeutic. The facilitators also reported that the development of a positive working alliance was easier to establish than they had initially anticipated. Furthermore, the quality of this alliance was perceived to be similar to what the facilitators had experienced in face-to-face settings. The cumulative results from these investigations suggest that online group processes can develop in a similar manner to those typically observed in face-to-face interventions. Furthermore, the group climate created online meaningfully impacts the group members and can influence their therapeutic outcomes. As with face-to-face gCBT interventions, this implies that careful attention should be paid to online group climate.

Onset of response. Although limited, research investigating the onset of response in face-to-face CBT interventions for depression indicates that the majority of symptom improvement occurs by the fourth week of treatment (Blackburn & Bishop, 1983; Ilardi & Craighead, 1994; Rush et al., 1981). Additionally, a number of studies suggest that this pattern of early improvement is predictive of outcome at post-treatment and follow-up (Beckham, 1989; Fennell & Teasdale, 1987; Keller & Hautzinger, 2007; Percevic et al., 2006; Renaud et al., 1998; Tadić et al., 2010; van Calker et al., 2009; Van et al., 2008). The findings from Chapter 6 investigating onset of response demonstrated that similar trends were observed in the MoodGroup intervention. Specifically, the bulk of depressive symptom improvement occurred within the fourth active week of the intervention and participants who achieved improvements within this time frame were far more likely to achieve and maintain therapeutic benefits than those who did not achieve early improvement.

An ongoing debate exists regarding the mechanism of change in early response to CBT-based interventions for depression. Researchers such as Ilardi and Craighead (1994) argue that non-specific therapeutic factors underlie early change processes as CBT interventions typically do not include exposure to formal cognitive modification techniques

within the first four weeks of treatment. However, researchers such as Tang and DeRubeis (1999) and Fennell and Teasdale (1987) assert that ready acceptance of the CBT paradigm and cognitive modifications are responsible for early change processes. Within the MoodGroup intervention, formal instruction in cognitive modification only occurred from the fourth session onwards. However, feedback obtained from the qualitative analysis in Chapter 7 revealed that participants stated that they had learned these techniques in earlier sessions. This supports Tang and DeRebeis assertion that the provision of a conceptual therapeutic framework in the early sessions of an intervention can create awareness about the importance of cognitive factors in the management of depression, and lead to reductions in depressogenic thinking in the absence of formal instruction.

In summary, comparisons between MoodGroup and face-to-face gCBT interventions for depression reveal that online gCBT is more similar than it is different to comparable offline treatments. Although attrition was higher than desirable, and effect sizes slightly lower than is typical for face-to-face gCBT interventions, MoodGroup demonstrated its worth in reducing depressive and associated symptoms and creating meaningful and lasting change in the lives of its participants. Furthermore, the online group processes and onset of improvement trends closely approximated those typically observed in effective face-to-face gCBT interventions for depression.

Contributions to CBT literature. The following section outlines the contribution that this thesis makes to the literature regarding CBT and depression.

Online gCBT. This thesis provided a qualitative and quantitative analysis of an online gCBT intervention for adults with clinically significant symptoms of depression. As online group therapy is an emerging treatment, scant research pertaining to this mode of treatment exists. The body of work contained in this thesis therefore provides a substantial

and meaningful contribution to the literature on online gCBT in the treatment of depression in a clinical adult sample.

To date, published studies of online group therapy have not included adults with clinically relevant depressive symptoms. Additionally, these studies have been characterised by a number of limitations including small sample size, non-clinical presenting problems, designs lacking a control group and long term follow-up. Furthermore, little information is available regarding the development and usability of these interventions, and their underlying mechanisms of change. This thesis addressed these limitations in a number of different ways. First and foremost, only adults with clinically significant symptoms of depression were included in the intervention. Furthermore, individuals with severe levels of depression and those with suicidal ideation were also included. Although a larger sample size was desirable, the overall sample size ($N = 92$) was appropriate for a pilot project and allowed meaningful conclusions to be drawn. Unlike studies that did not include a comparison group (e.g., Gerrits et al., 2007; Houston et al., 2002; van der Zanden et al., 2010), the use of a WLC group allowed for causal attributions regarding the efficacy of MoodGroup to be made. The six-month follow-up data collected from the treatment group provided valuable information regarding the longer-term outcomes of online gCBT.

This thesis provided a comprehensive quantitative analysis of online group processes and onset of response trends, and demonstrated that these processes and trends closely approximate those typically observed in successful face-to-face gCBT interventions for depression. Furthermore, it provided a well-rounded qualitative analysis of the MoodGroup experience from the perspectives of its three key stakeholder groups. This thesis additionally provided a detailed account of the creation and implementation of an online gCBT intervention. The collective findings from this thesis allowed for the development of a thorough set of recommendations for future online gCBT interventions. This thesis

addressed many of the limitations of existing research on online group therapy and has meaningfully contributed to the body of literature surrounding online gCBT interventions.

Quality of Life. Possibly because of its pervasive and disabling nature, individuals with depression report QoL ratings that are comparable to those with chronic illnesses such as hypertension, diabetes or arthritis (Hays et al., 1995). Despite the detrimental influence of depression on QoL, few published studies focus on the impact of treatment on QoL (Papakostas et al., 2004). However, a review of the literature on the impact of anti-depressant treatment on QoL suggests that psychopharmacological treatments can significantly improve the QoL of individuals at post-treatment and, to a lesser extent, over the long-term (Papakostas et al., 2004). Additionally, literature reviews focusing on the relationship between QoL and psychotherapeutic treatments for depression indicate that both group-based (Blake-Mortimer et al., 1999) and individual CBT interventions (Lenz & Demal, 2000; Meltzer-Brody & Davidson, 2000) can significantly improve QoL at both post-treatment and follow-up.

This thesis contributed to the literature surrounding QoL and psychotherapeutic treatments for depression by demonstrating that participation in MoodGroup significantly improved QoL in adults with clinically relevant symptoms of depression at both post-treatment and six-month follow-up. The online nature of MoodGroup brought together individuals who frequently described themselves as geographically or socially isolated. This sense of social connection likely contributed towards the QoL improvements demonstrated by the intervention. However, it is important to remember that MoodGroup was solidly grounded within a CBT framework and as such included social skills and assertiveness training, cognitive restructuring and behavioural activation, which are all important characteristics of therapeutic groups that enhance QoL (Blake-Mortimer et al., 1999; Lenz & Demal, 2000). The QoL findings from this thesis therefore contribute to the CBT literature in

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general by demonstrating that even in a novel format; CBT interventions for depression can improve functional capacity and life enjoyment.

Similar to QoL, there is limited empirical research on the onset of response of CBT interventions for the treatment of depression. However, the studies that do exist consistently demonstrate that the majority of symptom improvement occurs within the first four weeks of therapy (Blackburn & Bishop, 1983; Fennell & Teasdale, 1987; Ilardi & Craighead, 1999; Rush et al., 1981). Additionally, this pattern of early improvement is predictive of outcome at post-treatment (Beckham, 1989; Fennell & Teasdale, 1987; Keller & Hautzinger, 2007; Percevic et al., 2006; Tadić et al., 2010; van Calker et al., 2009; Van et al., 2008) and follow-up (Renaud et al., 1998). The findings from this thesis indicated that in general, the pattern of early improvement demonstrated in the MoodGroup intervention was consistent with the onset of response trends typically observed in face-to-face CBT interventions for depression. In this instance, the unique method of delivery of a gCBT intervention did not appear to alter these response trends. This has important implications for CBT literature in general as it highlights the robust nature of these trends and suggests that regardless of mode of delivery, individuals participating in a CBT-based intervention for depression can expect to obtain meaningful improvements in their depressive symptoms relatively early in treatment.

Additionally, findings from this thesis demonstrated that the provision of a solid conceptual framework created an awareness of the importance of cognitive factors in the management of depression. This in turn assisted MoodGroup participants to reduce their depressogenic thinking prior to receiving formal instruction in cognitive modification techniques. This is an important contribution to CBT literature in general as it provides insight into the mechanism of change of this treatment modality. Furthermore, it lends support to the assertion that a combination of non-specific therapeutic factors and cognitive restructuring is responsible for early onset of response in CBT interventions for depression.

In summary, this thesis contributed to the literature on CBT in the management of depression in a number of different ways. It provided a comprehensive qualitative and quantitative analysis of an online gCBT intervention that treated adults with clinically relevant symptoms of depression. The research included in this thesis addressed the efficacy of MoodGroup, its online group processes and onset of improvement trends. Additionally, an analysis of the MoodGroup experience from the perspectives of its major stakeholders was included. Taken together, the findings from this thesis provide insight into online gCBT, and have furthered the knowledge base of this emerging treatment modality. This thesis also contributes to the relatively scant empirical research surrounding QoL and onset of response trends in CBT-based interventions for depression.

Online management of suicidality. Approximately 46.9% of individuals with a depressive disorder experience thoughts of suicide (Goldney, Wilson et al., 2000). However, individuals with suicidal ideation are frequently excluded from online interventions as it is commonly believed that this modality is not able to manage suicide risk. The MoodGroup intervention successfully challenged this by demonstrating that with careful screening and ongoing management, individuals with suicidal ideation can safely be included in an online therapeutic group.

As described in detail in Chapter 3, the comprehensive risk management plan required applicants to provide their full name and contact details and complete a detailed and well-validated psychometric questionnaire during the screening process to assess their risk of suicide. Thorough risk assessments were conducted by phone or email with those who presented with an elevated risk. Of the 43 risk assessments that were conducted during the screening process, only 9 individuals were deemed ineligible to participate because their risk

of suicide was too great. The remaining 31 individuals were able to guarantee their safety and were included in the research.

In order to facilitate ongoing risk management, all MoodGroup facilitators received comprehensive training on the management of suicidality online. Facilitators were able to contact the author and/or MoodGroup clinical supervisor when concerns arose about the safety of their group members. Each group developed their own guidelines regarding what was acceptable to discuss in relation to suicide and self-harm, and group members were routinely followed up via email when these topics arose during a session. As it happened, only three risk situations presented themselves over the course of the six MoodGroups. All three were minor and were resolved via consultation with the clinical supervisor and follow-up emails to the affected group members.

The qualitative analysis in Chapter 7 provided valuable insights into the facilitators' experience of managing suicide risk online. The facilitators stated that they were initially nervous about monitoring the safety of group members in an online environment where non-verbal cues were absent. However, they quickly adapted to this medium and used other cues such as typing speed, emoticons and direct questioning to track the emotional wellbeing of their group members. Ultimately, the facilitators concluded that online risk management was more similar than it was different to face-to-face settings. Furthermore, in some instances the facilitators reported that the online environment facilitated risk management as the group members appeared to be willing to disclose their thoughts and feelings in this anonymous setting.

The feedback from the group members regarding MoodGroup's management of suicidality was mixed. For some, it was a relief to be in a supportive environment where suicidal thoughts could be discussed. However, others reported that these discussions were

too confronting. The groups differed in their ability to manage these discussions and this served to reinforce the decision to allow each group to set their own guidelines regarding the discussion of suicide and self-harm. However, it is possible that group members did not feel confident enough to voice their discomfort with the parameters set by the group. For this reason, facilitators were required to email group members to follow-up with them whenever a discussion surrounding suicide and self-harm occurred in a session. This provided an opportunity to check on the safety of the group members and allowed group members to express privately any discomfort or distress to the facilitator. The guidelines regarding discussion of suicide and self-harm were reviewed by the facilitator with the group members if they indicated experiencing any distress or discomfort with discussions surrounding suicide or self-harm. These strategies helped to promote a safe environment for all group members.

In conclusion, the MoodGroup intervention demonstrated that with appropriate screening and ongoing management, individuals at risk of suicide can safely be included in an online therapeutic group. This is an important finding as it debunks the common notion that online environments are unsuitable for the management of suicidality. As is common practice in face-to-face settings, it is not recommended that individuals who are unable to guarantee their safety for the duration of a treatment intervention be included in an online group. However, with a sound risk management plan, it is possible to include those whose protective factors outweigh their risk factors. The approach demonstrated by MoodGroup recognises and respects the risk of suicide within a clinically depressed adult sample whilst providing treatment and assistance to those where it is deemed safe to do so. This approach further allows for an open discussion on suicidality, and decreases the risk of stigmatising individuals with suicidal ideation by refusing them treatment because they have admitted to these thoughts.

Affordances and limitations. The collective findings from this thesis revealed a number of affordances and limitations of the online group therapy model. These are discussed below.

Affordances. The MoodGroup intervention provided a convenient and accessible mode of service delivery, which allowed for individuals who were geographically or socially isolated, time-poor or had child care responsibilities to access therapy. Additionally, the synchronous nature of the intervention meant that group members were still able to obtain the benefits of face-to-face work such as being immediately able to seek clarification, having group members challenge each other and being part of a responsive and supportive environment. The facilitators appreciated the convenience of being able to run the groups in a location of their choosing.

As recognised by Golkaramnay and colleagues (2007), participating in online group therapy is time-effective as it reduces the time required to travel to and from treatment venues. This is particularly valuable for individuals living in rural and remote parts of Australia who typically have to travel long distances to access mental health treatment centres (Aisbett, Boyd, Francis, Newnham, & Newnham, 2007).   Similarly, travel time for facilitators is reduced. This optimises time management and decreases travel costs. In this respect, MoodGroup presented a time-efficient model of service delivery despite the contact hours for both facilitators and group members being similar to what is experienced in an equivalent face-to-face gCBT intervention.

MoodGroup was well-received by its key stakeholder groups and demonstrated high usability ratings. The online groups were characterised by their supportive and accepting nature, and a strong therapeutic alliance was established. Group members became

increasingly more engaged and less avoidant over time, and became more adept at managing intra-group conflicts.

The content of the intervention was generally well received, with both facilitators and group members reporting that the readings and activities were clear, informative and helpful. The wrap-around and interteaching models maximised opportunities for interactive discussion and practical application of the concepts and activities. The technological features of the virtual therapy room furthered interaction and participation.

The anonymity that was afforded by the intervention was valued by the group members. The facilitators agreed that this anonymity increased disclosure and frank discussion amongst group members. The group members reported that accessing therapy online was less intimidating than face-to-face. Similarly, the provisional psychologists who facilitated the groups also reported that they found the online environment less threatening. Having access to written transcripts of each session was perceived to enhance the quality of the facilitators' clinical supervision and enhanced their learning and professional development. Taken together, this suggests that online group environments are an ideal initial treatment option for individuals who are avoidant or experience social anxiety. Additionally, this treatment modality may be an ideal means to introduce trainee psychologists to group therapy.

From a clinical supervision perspective, the findings from this thesis demonstrated that experienced supervisors do not need extensive training or experience in online therapy to provide competent supervision to online therapists. The majority of the clinical issues raised by MoodGroup facilitators in their supervision sessions were similar to those typically observed in face-to-face settings. Despite only receiving cursory training in online therapy, the MoodGroup clinical supervisor felt confident in managing the unique challenges that

arose in this online group setting. This finding has important implications as it means that little additional training is required for experienced clinical supervisors to transfer their face-to-face skills to the online setting. This has the potential to increase access to clinical supervision for online therapists.

Limitations. As MoodGroup was driven by online technology, it is perhaps unsurprising that technical difficulties were perceived as a major limitation of the intervention. Group members reported that the technology was difficult to master at times and they became frustrated when they experienced technical difficulties. The text-based nature of the intervention made it easy for misinterpretations and misunderstandings to occur. Group members reported that at times it was difficult to follow the streams of chat and facilitators reported having difficulties keeping group members on track as it was so easy for multiple streams of conversation to occur simultaneously.

The text-based nature of the intervention also slowed the pace of the sessions. As it takes longer to type than it does to talk, communication time was increased. The pace was further slowed when gaps in the conversation occurred whilst waiting for individuals to say something. Both the facilitators and group members who had previously engaged in face-to-face therapy reported that less content was covered online than face-to-face.

The slower pace of the intervention made it difficult for facilitators to balance the session content with relevant discussion. The facilitators consistently reported that it was difficult to decide when to stop a therapeutic discussion to return to the planned content. At times, discussions were maintained at the expense of the session content. This placed an additional burden on the group members to work independently through the skipped content and placed pressure on the facilitators to catch up this content in proceeding sessions.

Although the facilitators appreciated the convenience of working in an environment of their choosing, they did acknowledge that it was more difficult to maintain their professional boundaries when working in informal environment such as their own homes. The facilitators reported having difficulty 'switching off' from sessions when they were conducted in their own home. In comparison to face-to-face settings, they also reported having more difficulties terminating the online sessions punctually. This implies that careful attention needs to be paid to the maintenance of professional boundaries in online settings, especially when this work is conducted in the therapist's own home.

In summary, the experience of technical difficulties was a major limitation of the model. In addition, the pace was slower than face-to-face settings, reducing the amount of content and discussion covered in each session. Although the convenience of working from home was valued by the facilitators, it was more difficult for them to maintain their professional boundaries in this informal setting. The main affordances of the MoodGroup model were its ability to provide convenient, anonymous and accessible group therapy in an online environment that closely mirrored face-to-face settings. The intervention was well received by all key stakeholders with high usability ratings. It was deemed a non-threatening environment by both group members and facilitators alike, and supervision was able to be competently provided without extensive additional training on the part of the MoodGroup clinical supervisor.

Recommendations

Based on the findings of this thesis, the following section provides a series of recommendations for developing and implementing an online group therapy intervention.

Development of an online group intervention.

- Where possible, an existing evidence-based offline group intervention should be adapted for online use. This enables comparisons between the online and offline interventions and helps to ensure that the content of the intervention is well-validated.

- The online meeting space should be user-friendly, interactive and allow participants to communicate in a variety of ways. Online web-conferencing software is ideal for this purpose.

- The use of an interactive website should be considered to present the readings and home practice activities for the intervention.

- Text-based material within the online sessions should be reduced as far as is practical. Where possible, concepts should be presented graphically or pictorially and should be taught in a manner that maximises interaction between group members.

Target participants.

- Individuals should meet the minimum levels of literacy required by the intervention.

- Individuals need reliable access to a computer and a stable internet connection.

- Individuals should rate themselves as being confident in using the internet. Additional training in the technology employed by the intervention should be provided to individuals who are not confident in its use.

- Although individuals with severe depression should not automatically be excluded from participation, extra support may be required for these

individuals to encourage them to commence and continue with the intervention.

Recruitment.

- Online forms of recruitment should be used to attract individuals who are already comfortable working within this medium. Online forums, support groups and chat rooms should be considered, together with reputable websites providing information about diagnosis and management. Student support services for online learning institutions should also be considered.

- The intervention can be registered with primary referral source used by counsellors at relevant helplines. The JIGSAW Community Database (http://jigsaw.ontheline.org.au/ServiceSearch.aspx) provides a good example.

- Strategically placed advertisements or articles in widely circulated media publications can be a valuable recruitment source.

- Rural and remote mental health networks and support services can be enlisted to help promote the intervention to individuals living in these areas.

Screening.

- All applicants should be thoroughly screened for risk of suicide and other risks relevant to their diagnosis using, at minimum, a psychometrically sound screening measure.

- For risk management purposes, all applicants should be required to provide their full names and contact details, which should be verified prior to their inclusion in the intervention.

- Where possible, a structured clinical interview with a clinician should be included as part of the screening process to ensure that the participant meets

the diagnostic criteria for the targeted intervention. If this is not possible, an online diagnostic assessment program such as the e-pass (Nguyen, 2013) should be considered.

Group structure and composition.

- Participants should be screened for sub-types of the targeted psychological condition as well as co-morbid diagnosis. Where possible, similar individuals should be placed in groups together and the content of the intervention adapted to meet their individual needs.

- The ideal number of participants per synchronous online group appears to be between four to six. Having more group members than this makes it difficult for everyone to contribute equally whilst having fewer members than this appears to diminish the richness of the group experience.

- Groups should not run for more than two hours at a time and should include a short break in the middle of each session.

- Each session should include a range of activities and discussions designed to stimulate active participation and interaction to avoid the risk of group members becoming passive recipients of information. The technological features of the virtual therapy room should be employed as extensively as possible to support this active involvement.

- Each session should allow time for open discussion between group members.

- The session should be structured to reduce a reliance on text-based information.

Maximising retention and therapeutic gains.

- The time between screening and group allocation should be minimised as far as possible. Strategies to assist with this include: (i) offering groups across a variety of days and times to maximise participants' availabilities (ii) listing the proposed group timetable in the screening questionnaire and requesting that participants nominate groups that are convenient for them.

- Keep group sizes as small as is viable (see above) to promote an intimate and personal environment.

- Conduct an introductory session to acclimatise participants to the technology employed by the virtual therapy room and to thoroughly prepare them for the demands of the intervention.

- Provide weekly session reminders via e-mail.

- Send follow-up emails to group members who do not attend their session.

- Actively involve all group members and work to maximise engagement between group members.

- Provide additional support to group members who indicate that they are unsure about the technology employed in the intervention or who lack confidence using the internet.

- Identify group members who do not demonstrate an early treatment response and provide additional support.

Post intervention support.

- If possible, post intervention support should be provided. A moderated online forum and chat room would be an ideal way to provide participants with a safe

space whereby they can continue to support each other once the intervention has ended.

Facilitation.

- A two-facilitator model should be employed, preferably with at least one fully qualified therapist experienced in running face-to-face groups.

- Facilitators should be available via email during business or agreed-upon hours to answer questions from group members.

- All facilitators should have access to a senior clinician for the purposes of risk management consultation.

Risk management.

- Participants should be thoroughly screened at the start of the intervention to identify those who are potentially at-risk.

- Facilitators should have access to the full name and contact details of all participants so that they can be contacted in the event of an emergency or risk situation.

- The technology chosen for the virtual therapy room should include a private message function to allow one-on-one communication between facilitators and group members. Group members should be aware that they can contact facilitators in this manner if they are feeling at-risk during a session. Conversely, facilitators should use this feature to conduct a risk assessment with group members as necessary. The technology should also allow for facilitators to monitor private messages between group members.

- Group members should be assisted to formulate their own guidelines regarding what is and is not acceptable to discuss in terms of suicide and self-harm. To

help ensure their ongoing safety, all group members should be followed up by the facilitator via email should discussions surrounding suicide or self-harm occur in the group.

- A detailed risk management plan should be developed with clear guidance provided as to the type of intervention required for differing levels of risk.

Supervision.

- A senior clinician should be available for regular supervision sessions.
- Session transcripts should be reviewed as part of the supervision session.
- Where possible, supervision sessions should take place in the virtual therapy room. This will likely increase the supervisor's understanding of the requirements and demands of conducting group therapy in an online environment and will allow the supervisor to assist with associated technical issues.

Drop out follow-up.

- Participants who leave the intervention prior to its conclusion should be formally followed up to check on their wellbeing and to determine their reasons for dropping out of the intervention.
- To reduce the risk of socially-desirable responding, this information could be gathered through the use of an anonymous online survey.

Limitations

Analysis of the limitations of each of the four investigations contained in this thesis revealed a number of broad limitations overall. The relatively small sample size, combined with the high rate of attrition meant that this research was underpowered. This decreased the

probability of detecting significant effects and raised the possibility that main effects were undetected (Maxwell, 2004). This research relied entirely on self-report to establish the depressive inclusion criteria and determine the impact of the intervention. According to Andersson and Cuijpers (2008) the sole use of self-report in online interventions should be avoided where possible. A further overall limitation of this research was the use of a one-facilitator model as a two-facilitator model is commonly considered best practice in group therapy (Wright, 2003). A summary of the unique limitations of each individual investigation is presented below.

The efficacy trial (Chapter 4) included the use of a sample that was not purely randomised. The presence of 15 individuals who were both in the WLC and treatment group presented a substantive threat to the internal validity of this investigation and limits the causal attributions that can be made. The group processes investigation (Chapter 5) conducted data collection fortnightly, which may not have been frequent enough to capture changes in group climate. Additionally, perceptions of group climate were based on self-report alone which increases the likelihood of a mono-method bias (Campbell & Fiske, 1959). Furthermore, therapeutic alliance was not quantitatively examined. The investigation of treatment response trends (Chapter 6) only included an analysis of treatment completers, which prevented these results being compared with those who prematurely dropped out of the intervention. Additionally, only a limited number of participant pre-treatment characteristics that may be associated with different rates of responding were examined. The usability analysis in the Chapter 7 relied heavily on the use of Likert scales, which are prone to a number of responding biases. The difference between each response choice of the Likert scale is not precisely equal; making it impossible to determine how much greater one response-choice is when compared with another. This investigation also presented a number of sampling issues including collecting evaluation questionnaires from session completers only, including only

provisional psychologists as facilitators and having only one clinical supervisor. Additionally, the author who was known to the facilitators conducted the focus group and content analysis. This may have influenced the facilitators' responses. Ideally, an investigator unknown to the participants should undertake these processes.

This research was conducted as part of an unfunded PhD thesis. It was therefore constrained by a number of practical considerations, including strict timeframes and a limited budget. These constraints influenced the design and implementation of the research and were at least partially responsible for the limitations that occurred. Ideally, the recruitment campaign would have included the use of paid advertisements to help increase the sample size, clinical interviewers be employed to reduce the reliance on self-reported data, paid research assistants be recruited to conduct the focus groups and thematic analyses and an additional clinical supervisor be engaged to increase the generalisability of the findings related to supervision. However, as the budget did not support this, the research was designed to maximise the use of available resources. It should also be remembered that the participants were experiencing clinical levels of depression, which is frequently accompanied by low levels of motivation and cognitive impairment (Marazziti, Consoli, Picchetti, Carlini, & Faravelli, 2010). The research was therefore designed to reduce the burden placed on participants by limiting both the frequency of data collection and the amount of variables that were examined. Although this resulted in certain research limitations, it also served to protect the wellbeing of participants.

Future studies should endeavour to address at least some of these limitations. This could be done in a number of ways. Recruitment of a larger sample size, possibly through an extended and funded advertising campaign, would help to ensure sufficient power and ameliorate the impact of attrition. Future studies should include the use of randomised controlled designs to allow for causal attributions to be made. If possible, future studies

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should also include the use of clinical interviews to reduce the reliance on self-reported data. Additionally, qualitative interviews and focus groups should be conducted and interpreted by investigators unknown to the participants. Efforts should also be made to collect follow-up data from participants who prematurely withdrew from the intervention so that comparisons between treatment completers and non-completers can be made. These strategies will help to avoid many of the limitations presented in this thesis.

Directions for Future Research

In the process of addressing the main research questions posed in this thesis, further questions were raised. These questions form the directions for future research. The following section discusses possible directions for future research.

Replication and follow-up. The efficacy trial presented in this thesis is the first to examine the effects of online gCBT on adults with clinically significant depressive symptoms. As such, replication studies are required to generalise the findings of this research and address its limitations. To address the sample size and randomisation limitations present in the current research it is recommended that future studies recruit a larger sample and employ a pure randomisation design in the RCT. In addition to a WLC, it may also be helpful to include a face-to-face treatment group. This will enable comparisons between the offline and online intervention to be made. To understand better the long- term effects of the MoodGroup intervention, it will be helpful for future efficacy studies to include twelve-month follow-up.

Quality of Life. The relationship between QoL outcomes and psychotherapy for depression is under-researched (Lenz & Demal, 2000). The finding that MoodGroup participants experienced significantly improved QoL over time when compared with wait-list controls makes an important contribution to this area of research. However, little remains

known about the nature of this relationship. The finding that individuals with higher baseline QoL score were more likely to achieve early reductions in their MDI-assessed depressive symptoms than those with lower QoL scores at baseline suggests that pre-treatment perceptions of QoL can impact treatment response in MoodGroup. It would therefore be useful to conduct further research to test whether QoL moderates the effect of MoodGroup on depressive symptoms. Future research could also examine mediators of the association between QoL and treatment response. For example, better baseline QoL could result in better engagement in the intervention, in turn improving treatment outcomes.

Cost effectiveness. Online therapies are commonly regarded as being cost effective, but surprisingly little research has been conducted to verify this claim. This is an important area of research as it provides information to both consumers and service providers about the expected costs of the intervention. Furthermore, if the cost effectiveness of online group therapy can be demonstrated it may increase its uptake.

Currently, the cost effectiveness of online group therapy using single or dual facilitator models is unknown. Future research comparing the efficacy and cost effectiveness of these models may help to guide decisions related to the number of facilitators employed in an online group intervention. Additionally, as it has been demonstrated that non-clinical technicians can provide effective support in asynchronous interventions for individuals with mild to moderate depression (Titov et al., 2010), it may be useful to investigate the cost effectiveness and efficacy of dually facilitated online group interventions utilising qualified mental health clinicians paired with trained non-clinical technicians. Given the intricacies of group therapy and the high levels of support required in synchronous online group interventions, it unlikely that non-clinical technicians could adequately facilitate an online gCBT intervention alone. However, pairing the technicians with clinicians may address some

of the limitations of single-facilitator models whilst reducing the additional costs associated with a dual-facilitator model.

Independent investigation of group climate. In this thesis, perceptions of group climate were based solely on the group members' self-report, increasing the likelihood of a mono-method bias (Campbell & Fiske, 1959). As session transcripts are readily available in online treatment sessions, future studies could include the use of independent observers to review these transcripts and assign group climate ratings. It would also be helpful to include the facilitators' perspectives of the group climate. These additional perspectives will allow for a more comprehensive analysis of group climate and will permit the triangulation of the multiple sources of group climate data. This will in turn improve the construct validity of the online group climate theories that are subsequently developed (Allen, Eby, O'Brien, & Lentz, 2008).

Therapeutic alliance. Although this thesis did not include a quantitative analysis of therapeutic alliance, it is an important variable to consider as the quality of the therapeutic alliance developed in CBT-based interventions for individuals with depression has a significant effect on clinical outcomes (Krupnick et al., 1996). Additionally, little is known about the quality of therapeutic alliance in online group interventions. Future research should therefore quantitatively examine the nature and impact of the therapeutic alliance developed in an online gCBT intervention for depression.

Relationship between treatment fidelity and clinical outcomes. Monitoring treatment fidelity is an important part of enhancing the validity of the conclusions that are drawn from treatment outcomes (Miller & Binder, 2002). As stated by Moncher and Prinz (1991), verifying treatment fidelity helps to ensure that valid comparisons of replicable treatments can be made. Additionally, examining the relationship between treatment fidelity

and clinical outcomes is particularly important in an intervention like MoodGroup, where facilitators consistently reported having difficulty adhering to the prescribed session content because of the discussions amongst group members that resulted. It would therefore be helpful for future studies to monitor the treatment fidelity of online gCBT interventions.

Alternate versions of MoodGroup. This thesis explored an online gCBT intervention for the treatment of depression in adults with clinically significant symptoms of depression. Previous research has however demonstrated that online gCBT can significantly reduce depression in adolescents with sub-clinical depression (Gerrits et al., 2007; van der Zanden et al., 2012). It would therefore be useful to study the effect of the MoodGroup intervention on adolescents and those with less severe depressive symptoms.

To date, research conducted on online group therapy has not included the use of audio-visual aides such as microphones or cameras. Little is therefore known about the impact of this use of technology on online group therapy interventions. Future versions of MoodGroup could include the use of audio-visual aides in order to provide insight into the impact of this technology on the efficacy and usability of the intervention.

In this study, participants were not screened for comorbidities and the impact of MoodGroup on comorbid diagnoses was not examined. Given that QoL was improved by participation in MoodGroup and that CBT demonstrates efficacy in the treatment of a range of psychological disorders (Beck, 2005), it is possible that MoodGroup positively impacted participants' co-morbid symptoms. It would therefore be useful to investigate the impact of future versions of MoodGroup on participants' comorbidities.

As the bulk of symptom improvement occurred within the first four weeks of active treatment in the MoodGroup intervention, it may be useful to investigate the efficacy of a shortened version of MoodGroup. A shortened version of MoodGroup is desirable as longer

programs are associated with higher rates of attrition (Christenson, Griffiths, MacKinnon, & Britliffe, 2006; Cuijpers, van Straten, & Andersson, 2008). Additionally, a shorter intervention potentially increases the treatment capacity of MoodGroup as more programs could be fitted into a specified timeframe. A shortened version of MoodGroup would likely be based on the Core Program's suggested format for a six-session group (Paterson, 2006). This means that the 'Triangle and Goals' and 'The Role of Your Social Life' sections would be covered in one instead of two weeks. Additional pre-reading and home practice activities may be required to ensure that all of the content is covered. As the efficacy of a shortened version of MoodGroup is unknown, further research would be needed to investigate its treatment effects before it is made available to the public.

Implications

A number of implications result from the research presented in this thesis. Although some challenges existed with the design and implementation of MoodGroup, this thesis demonstrated that online gCBT is a viable, feasible and potentially effective treatment option for adults with clinically relevant symptoms of depression. This thesis further demonstrated that with effective screening and management, individuals with suicidal ideation can safely be included in an online group intervention. This finding has the potential to increase access to online services by individuals at risk of suicide. Furthermore, it increases the generalisability of the findings from this thesis as the sample was representative of adults with depression in the general population.

The rates of depression in remote and rural areas of Australia are similar to those observed in metropolitan areas. However, rates of suicide in these areas are higher and access to mental health services are lower (Caldwell et al., 2004). The convenience and accessibility of the MoodGroup intervention has the potential to increase service access to

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individuals in remote and rural Australia. Innovative interventions like MoodGroup therefore have the capacity to ameliorate the shortage of mental health practitioners in non-urban areas whilst addressing the social isolation that commonly occurs in these areas (Jameson & Blank, 2007).

The finding that MoodGroup demonstrated similar trends to successful face-to-face gCBT interventions has important implications for clinicians. It means that mental health professionals who are experienced in face-to-face group interventions can convert their knowledge to online settings without extensive additional training. Additionally, they can use the same clinical indicators such as early engagement and response to treatment to monitor and adapt their online group intervention. The findings from this thesis also demonstrated that experienced supervisors do not need to be well versed in online therapies or undertake extensive additional training to supervise effectively online group therapists. This has the potential to encourage clinical supervisors to include online therapies as part of their supervision repertoire.

In Australia, access to postgraduate psychology placements is both limited and extremely competitive. Provisional psychologists often have to travel great distances to undertake their clinical placements and they commonly have difficulty finding appropriately qualified clinical supervisors (Voudouris & Mrowinski, 2010). The provisional psychologists who facilitated the MoodGroup intervention undertook this role as part of a clinical placement. The findings from this thesis demonstrated that this experience was both positive and successful. The MoodGroup facilitators reported that the online environment was non-threatening and that they gained valuable clinical skills that could easily be converted to face-to-face settings. Additionally, they appreciated the convenience of undertaking this placement at a location of their choosing. The provision of online clinical placements

therefore has the potential to address some of the problems associated with the shortage of field placements available to Australian provisional psychologists.

Overall Summary

This thesis investigated MoodGroup, an online gCBT intervention for the treatment of depression in Australian adults. The findings demonstrated that MoodGroup is a highly usable, convenient, accessible treatment option that demonstrates promise in reducing affective and associated symptoms and improving QoL in adults with clinical depression. This thesis further demonstrated that with effective screening and management, individuals with an elevated risk of suicide can participate safely in online group interventions. This thesis also showed that group cohesion is possible in an online space, and that group dynamics and response trends online mirror those seen in face-to-face groups. It was further demonstrated that with appropriate training and support, clinicians and supervisors can successfully adapt their existing skills to an online group therapy context. This thesis has demonstrated that technology, group work and evidence-based practice can be combined to deliver an innovative intervention that safely and effectively reduces depressive and associated symptoms whilst improving QoL.

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Appendix A: Poster presented at the 5th Annual ISRII Conference

Appendix B: Facilitator Manual

<u>INTRODUCTORY SESSION</u>

INTRODUCTION ACTIVITY

Goal: To introduce yourself to the group, the group to each other and to provide education about Blackboard Collaborate (BC).

- Introduce self and share something about yourself with the group.
- Explain to participants how they can write in BC and how they can send private messages to you. Then ask participants in turn to introduce themselves by stating their name and something they like or are interested in.
- Positively reinforce participants for their contributions and make a general statement about the group. Where possible, try to tie common themes together to create a sense of unity amongst group members.
- Remember to click "follow" so participants' slides move as you move yours.

GROUP GUIDELINES

Goal: To develop a set of expectations for behaviour and participation.

- Explain the rationale for guidelines- importance of setting up agreed upon standards of behaviour and participation, assist to make this a safe and supportive space.
- Encourage participants to suggest their own guidelines. Introduce the whiteboard, instruct participants how to use it and request they write their guidelines onto it.
- Use these suggestions to develop a list of approximately 5 guidelines. Recommended guidelines include:
  - ➢ Attend punctually each week
  - ➢ Be supportive of other group members
  - ➢ Respect and maintain confidentiality
  - ➢ Help others to work toward solutions
  - ➢ Be an active participant

CONFIDENTIALITY

Goal: To establish the expectation and importance of confidentiality.

- Introduce the topic of confidentiality in the context of the guidelines e.g:

  "*one of the guidelines we have agreed upon related to confidentiality. This is so important I would like for us to spend some more time discussing it.*

- Present the "Confidentiality" slide to participants and ask them to read through it.

- Lead a discussion on confidentiality by asking participants what it means for them to know that the information shared in the group will remain within the group. Highlight similarities that emerge within this discussion.

- Introduce the polling feature and ask participants to answer yes/no if they agree to the confidentiality expectations.

- Produce the results on screen. If the answer is not 100% yes address this privately with anyone who answered no.

EXPECTATIONS/COMMITMENT

Goal: To explain to clients what is expected of them during the program, and highlight the importance of them putting the skills to use outside of the group setting.

- Adapt the following script as required:

  " *Before coming to the group today, you may have been thinking about the program and how it might be helpful. Coming to sessions every week, listening to me and reading the pre-readings before each session is a great start. But that alone is not enough to bring about real change. What will help to do this is to take an active approach to the difficulties that have brought you here today. Change occurs when people listen to, and then apply the strategies and ideas they learn in the groups. You will spend almost all of your life outside of this group setting. You will get the most benefit if you take the ideas you learn in here, and put them to use outside in your everyday life.*

- Display the "Attendance" slide. Provide time to read.

- Introduce the "Raise Hands" function and ask participants to use it to ask any questions.

- Display the "Format" slide. Stress the time, dates and number of sessions.
  Ensure the slide has been updated with the correct information!

- Point to the statement on pre-readings. Explain that participants will be emailed with weekly reading material to read before the next session. Stress the importance of undertaking this.

- Point to home practice review. Explain that a crucial part of bringing about change is practicing the skills learnt. Completing home activities is a really important part of this process.

BARRIERS TO PARTICIPATION

Goal: To highlight the importance of active participation, explore barriers to participation and generate potential solutions to these barriers.

- Display the "Participation/Home Practice" slide and ask participants to read through the material. Introduce the use of the "Feedback Menu" by displaying and modelling use of the "approval button" (thumbs up) in the feedback menu. Ask participants to click the approval button once they have read the slide.

- Highlight again to the participants how important active participation is- both in-session and at home during home-practice times.

- Normalise and empathise with barriers to participation. For example:

- *"By now I am sure that it has become clear that MoodGroup is a commitment that requires your time and participation to achieve the best results. It is normal to feel that there are things that may get in the way of participating, especially considering that everyone who participates in MoodGroup is experiencing depression. I would like for us to spend some time thinking about potentials barriers that may be present. We will then as a group try to find some ways around these barriers".*

- Ask participants to write a potential barrier to their participation on the whiteboard. If participants find they have the same barrier as someone else they can write their name next to that barrier or "ditto"

- Reflect on what has been written and where possible try to combine barriers to make a theme.

- Examine each set of barriers in turn and ask participants to generate some solutions to them.

- Insert the barriers with the solutions into the "Participation Barriers and Solutions" table.

CONTRIBUTIONS AND WISH LIST

Goal: To allow participants to learn more about each other, foster group cohesion and outline hopes and expectations for themselves and the group.

- Build on the momentum gained in the previous activity by highlighting how individuals within the group worked to create solutions not just for other group members but for the group as a whole.
- Explain that part of what makes a group successful is using the strengths and unique contributions of each group member to benefit the group as a whole.
- Explain too that successful groups are ones where members work not just on individual goals, but on goals for the group as a whole.
- One at a time, ask participants to share
  - ➢ Something positive they can contribute or would like to contribute e.g: being good at problem-solving, caring about others, being a good support.
  - ➢ What they wish or hope to achieve for themselves from the program.
  - ➢ What they hope to achieve for the group.
- Fill in the individual's wish or hope in the "Individual Wishes and Hopes" table.
- Summarise themes emerging for the group and write these on the "Group Wishes and Hopes" table.
- Highlight how participants are working towards a common goal.

PRE-TEST MEASURES

Goal: To explain importance of empirical evaluation.

- Explain rational behind completing questionnaires (measurement of progress, evaluation of program, means to see where people are currently and what areas require most assistance).
- Highlight that completing questionnaires is a requirement of the program.
- Provide link to online surveys and request that all participants complete it now.
- https://rmit.asia.qualtrics.com/SE/?SID=SV_9SSQiYEhuIlPuCg
- https://rmit.asia.qualtrics.com/SE/?SID=SV_0PV6pMdQPhA2vYw

- Inform participants that questionnaires generally take no more than 30 minutes to complete, and that you will be available in the online classroom for the remaining 45 minutes to answer questions or provide support to answer the questionnaires.
- Remind participants to check their emails for Week 1s pre-reading.
- Allow opportunity for questions and or comments.
- Thank participants for their attendance and remind them of the session dates and times next week.

SESSION ONE: THOUGHTS, ACTIONS and FEELINGS: THE TRIANGLE

Important: When setting up screens in break out rooms check with the group to see if the slides are visible once they have been set up. If not request that they use the drop-down menu to access the relevant slide once in the room.

READING REVIEW

Goal: To facilitate a discussion on the reading material with particular reference to the Triangle.

- Ask participants how they went with the readings and to click the green tick button if they completed them. Praise participants for their efforts.
- Ask for a participant to explain the Triangle
- Ask for another participant to explain the "Job Loss" example.
- Explain to participants that they will be divided into smaller rooms for the purpose of small group discussion.
- Request that participants discuss the Triangle and come up with an example of how the triangle interacts (negative spiralling) to bring back to the group.
- Divide participants into small breakout rooms.
- Provide the "Example Situation" slide for this purpose.
- Allow approximately 10 minutes for participants to discuss this in their small groups then return everyone to the main room for reflection.
- Bring the slides from the break out rooms into the main room for this discussion.

INFLUENCING THE TRIANGLE

Goal: To consolidate the concept that actions and thoughts are easier to change than feelings AND have the power to influence feelings.

- Ask participants to write their names next to the side that gives them the most trouble using the "What Side Gives You the Most Trouble" slide.
- Highlight to participants that their emotions are not the main problem after all and state the importance of working on actions and thoughts to change feelings.

- Ask participants to write their names next to the side that would be easiest to change using the "What Side would be Easiest to Change" slide.

- Highlight that for most people most of the time; behaviour is easiest to change, followed by thoughts, followed by emotions.

ACTIONS AND THOUGHTS > EMOTIONS

Goal: To get participants to understand why emotions are the hardest to change

- Ask participants how they would change their feelings. Their responses will usually indicate that they will make themselves feel better by acting or thinking differently. Highlight this point to them- that changing your actions and thoughts will lead to a change in feelings.

- Ask participants what happens when they try to feel a certain way- as in trying to feel happy or not depressed. Highlight that generally forcing emotions to change only serves to make them even stronger i.e. the more we try to feel happy, the sadder we end up.

ACCEPTANCE OF EMOTIONS

Goal: To use the River exercise to help participants to accept their emotions without trying to influence them.

- Ask participants about their impressions of the River exercise

- Highlight the point that if we open ourselves up to our feelings and recognise they are just feelings and are not lethal or dangerous then they will tend to become less intense.

- Get participants to understand that they do not need to work on their feelings per se. If they simply accept and acknowledge their presence, they can change the impact of their feelings by working on their actions and thoughts.

- The goal of feeling better will not be achieved by resisting negative feelings. Spending less energy fighting these feelings, and more energy working on actions and thoughts will create positive change.

CHANGING ACTIONS AND THOUGHTS TO CHANGE FEELINGS

Goal: To persuade participants that changing actions and thoughts will change feelings.

- Complete the "Feeling Worse" exercise
    1. Use the "Ways to Make Yourself Feel Worse" slide
    2. State the following: *"Imagine that for some reason you wanted to feel worse for awhile. Lets pretend that you would get paid $1000 000 if you could make yourself feel worse for 30 minutes. How would you do it? What would you try to make yourself feel worse?"*
    3. Ask each participant to provide one suggestion in the chat window. You can temporarily disable their Whiteboard access to make sure they use the chat box for this task.
    4. Transcribe this to the Whiteboard, dividing responses into one column for actions and another for thoughts.
    5. Offer participants to add to the list once everyone has had a turn.
    6. Ask participants what they think the columns are about.
    7. Highlight that participants largely mention thoughts and actions, not feelings. Explain how the columns have been divided and show them that actions and thoughts can affect feelings negatively.
    8. State that in the same way, actions and thoughts can affect feelings positively.

GETTING BETTER

Goal: To make participants realise that in order to get better they have to oppose their negative tendencies.

- Highlight that when we feel one way, it is natural for our activities and thoughts to follow suite. So if you feel depressed, the natural tendency is to do and think things that will make you feel worse.
- Explain that getting better involves opposing these natural tendencies
- Get participants to provide opposing thoughts and actions for list they created using the "Feeling Worse" exercise. Use the "Ways to make yourself feel better slide" for this purpose. Re-instate Whiteboard access and ask them to write appropriate actions/thoughts onto the slide.

ESTIMATING THE DIFFICULTY OF TAKING ACTION

Goal: To get participants to realise that their depression may cause them to overestimate the difficulty of taking positive action

- Ask participants to report on the "Estimating Difficulty" activity using the "Estimating the Difficulty of Taking Action" slide.
- Lead a discussion about the differences between the two columns
- Point out that depression can cause people to overestimate difficulty levels.
- Be sure to state that you are not dismissing the difficulty of a task- you are merely demonstrating that although actions are still difficult, they are rarely as difficult as anticipated.
- Encourage participants to compensate for their overestimation by pushing themselves to do some things they are tempted to avoid.

OVERCOMING STUCKNESS

Goal: To make participants realise that they will need to take action to bring their motivation and energy back.

- Lead a discussion on participants' experiences of feeling like they know what would like to be doing but not feeling like doing it.
- Refer to the "Rewarding Activities" sheet. Ask participants to identify the activity they would most like to do.
- Ask participants why they have not yet done this activity and link this to the concept of waiting around for energy and motivation to strike.
- Divide participants into break-out rooms for a discussion on the "Overcoming Stuckness" slide. Ask them to think about how to overcome the stuckness when they lack energy and motivation.
- Return participants to main room and reflect on a discussion that emphasises that the boulder will not move without a push, but that it will gather its own momentum following this push.

CREATING THE PUSH

Goal: To clarify the concept of achieving success though small goals.

- Ask participants to explain the "Defying Stuckness" slide in their own words
- Highlight that achieving goals, no matter how small, will lead to an increase in motivation and energy.
- If time permits break participants into 2 groups and ask them to spend time analysing and explaining the "Expectation vs Motivation" slide. Otherwise conduct as a whole group activity.
- Bring participants back into the main room and discuss their interpretations.
- Clarify that the graph shows someone who has set her goals at a specific level (dotted line), and is able to achieve these goals for a period of time (purple line at or above dotted line). However, over time these goals are not met, possibly due to a life stress such as depression. Indicate that the area under the graph is related to levels of motivation and energy.
- Ask participants to try to interpret the "Adjusted Goals" graph. Main points:
    - "High" goal line is the expected goal before depression.
    - Depression saps a person's motivation and energy, making it impossible to achieve this goal. This experience of failure further saps energy and motivation.
    - "Low" dotted line reflects the need to set goals appropriate to the participants' current situation. They are achievable stepping stones.
    - Setting small goals makes it possible to achieve them. This success serves to increase motivation and energy.
    - Goals can gradually be increased over time.
    - Motivation and energy will increase rapidly as success becomes more frequent.

HOME PRACTICE ACTIVITIES

Goal: To clarify homework for the upcoming week

- Re-read "Session Two Preparatory Reading"
- Read "Session Three Preparatory Reading"
- Complete the Writing Exercise in Session Three Preparatory Reading called "Turning Problems into Goals and Goals into Plans"
- Complete the questionnaire located here:
  https://rmit.asia.qualtrics.com/SE/?SID=SV_81AirMf0AXSy0RK

SESSION TWO: PROBLEM SOLVING & GOALS

READING REVIEW

Goal: To facilitate a discussion on the difference between Immediate and Ultimate goals.

- Ask participants to tick the green yes button if they completed the readings and find out how they went with them.

- Explain that the first activity will involve participants being divided into 2 smaller rooms, each with different tasks.

- Request that participants in Group 1 provide a definition and example of "Immediate Goals".

- Request that participants in Group 2 provide a definition and example of "Ultimate Goals".

- Provide each group with the appropriate slides as a reminder using "Break Out Room 1 or "Break out Room 2 slides".

- Bring participants back into main room and upload each slide to allow participants from each group to present their findings on the whiteboard.

- Get participants to suggest some Ultimate Goals and then ask other participants to provide some associated Immediate Goals to help achieve the Ultimate Goal. Using a new whiteboard screen list the Ultimate Goals on the left hand side and the associated Immediate Goals on the right hand side.

STEP ONE: THE PROBLEM LIST and STEP TWO: THE PROBLEM I PICKED

Goal: To facilitate a discussion about the Problem List and the problems that participants picked to work on.

- Lead a discussion on the types of problems the participants identified in their lives.

- Ask participants to discuss the reasons for picking their particular problem to work on, and encourage them to share the actual problem with the group. If participants wish to share their goal ask them to write it up in a unique colour onto the whiteboard on the "Problem I Picked" slide.

- Ask participants to discuss the process of turning their problem into an Ultimate Goal. Encourage participants to share their Ultimate Goal with the group.

STEP THREE: BREAKING PROBLEMS AND GOALS INTO BITS and STEP FOUR: Making Immediate Goals

Goal: To facilitate a discussion about breaking problems into bits and creating immediate goals for those bits

- Ask a participant to volunteer a problem and its associated bits and pieces. If there is a common theme associated with difficulties that have already been shared this can be used instead.
- Type the problem on the whiteboard along with the associated bits and pieces on the "Problem Bits and Pieces" slide.
- Ask that participant to identify which bit of the problem they want to work on. Circle this on the whiteboard slide.
- Request that other participants come up with possible solutions for that bit.
- Write these on the whiteboard screen.
- Facilitate a discussion on this process, and how easy/difficult participants found it.
- Highlight to participants how the suggestions can easily be turned into immediate goals.

STEP FOUR: MAKING SMART GOALS

Goal: To consolidate the idea of SMART goals

- Ask participants for their thoughts on SMART goals in the pre-readings.
- Explain that participants will be divided into breakout rooms where each participant in turn will be asked to provide an example of an Immediate Goal.
- Request that the other participants run through the SMART principles to determine if the goal is indeed a SMART one.
- If the goal is not SMART, ask that the participants suggest ways to make it SMART.
- Provide participants access to the SMART Goal slide in the break out rooms.
- Request that participants write their Immediate Goals onto this slide for others to view.

- Return all participants to the main room and lead a discussion on setting SMART goals.

TIPS FOR IMMEDIATE GOALS

Goal: To discuss the "Tips for Immediate Goals"

- Use the Tips for Immediate Goals slide and ask participants to explain each of the suggested tips.

TIPS FOR COMMON PITFALLS IN GOAL SETTING

Goal: To discuss the "Common Pitfalls in Goal Setting"

- Using the "Common Pitfalls" slide, ask participants to identify what pitfalls they experience.

IN-SESSION GOAL SETTING

Goal: To get all participants to list a goal they will work on through the week

- Ask each participant to list a goal to be worked on this coming week.
- Seek other participants' feedback, reminding people that it is to be a SMART and Immediate Goal.

EXPLANATION OF HOME PRACTICE ACTIVITIES

Goal: To clarify the homework for the next week

- Read over "Session Two Pre-Reading"
- Complete the "Personal Goal Setting Form"
- Read "Session Three Pre-Reading" in preparation for next week's activities.
- Complete questionnaires located here:
  https://rmit.asia.qualtrics.com/SE/?SID=SV_3L5INSSsCDSbBUE
  https://rmit.asia.qualtrics.com/SE/?SID=SV_8DfWKsyGS0eXUHy

SESSION THREE: STRESS AND LIFESTYLE

Home Practice Review

Goal: To discuss how participants managed their goal setting activities over the past week

- Welcome participants to the group and explain that from now on every week they will get divided into smaller rooms to do a home practice review.
- Ask participants to reflect on how they went in their goal-setting task and to set a new goal for the coming week.
- Divide participants into 2 break out rooms.
- Reinforce those who achieved their goals and encourage group members to praise others for their success.
- If unsuccessful, explore the reasons why with the group- was the goal SMART, was it overly ambitious etc
- Remind participants that the aim of this review is not for them to reproach themselves for not achieving their goals. Re-explain that they are not expected to have high levels of energy or motivation. Encourage them to scale-back their goals into something less ambitious and more achievable.
- Ask participants about how hard they thought the task would be and how hard it actually turned out being.
- Discuss the new goals to be set for the week.
- If a participant sets a goal that is too ambitious, solicit the opinion of the group in an effort to scale down the goal.
- Participants can set goals based on the material that is presented in-session For example, in the lifestyle section participants may choose to decrease their caffeine intake that week.
- Participants may wish to use the same goal each week. Once the participant has experienced at least one success with that particular goal the participant should be encouraged to set an additional goal.
- Record the goals discussed in the "Group Goal-Setting Form".
- Return participants to the main room.

WHAT IS STRESS?

Goal: To distinguish between a stressor and a stress response, and emphasise that a stress response is a coping strategy

- Welcome participants back to the main room and discuss that time will now be spent discussing the concept of stress.
- Ask participants to explain what stress is to them. Specifically ask participants to type their responses in the chat box and not on the whiteboard. (Temporarily disable their whiteboard access if necessary). Place their answers on the whiteboard slide "What is Stress" according to two categories: Stressor/Events and Response/Changes in the person.
- Reflect on the columns and the differences/commonalities of the responses.
- Ask participants to verbalise the difference between a stressor and a stress response.
- Show the "Stressor and Stress Response" slide and highlight these concepts:
  - ➢ Stressor = something that people see as threatening in some way
  - ➢ Stress response = complex set of changes that happen in our body to help us to deal with the stressor.

ALLERGIC REACTION ANALOGY

Goal: To illustrate the point that stress is a "helper" response in the body that does more harm than good

- Scroll to the "Stress Analogy" slide and state that reactions to stress are what happens when our bodies react or over-react to a situation.
- Encourage participants to use the cartoon on this slide to see if they can think of another "helper" response in the body that does more harm than good?
- Explain the concept of the allergic reaction and that it is not the thing that people are allergic to that is the problem but rather their immune system's over-reaction to it that creates difficulties.
- Similarly, the stress response is a complex set of bodily changes designed to help us cope with dangerous changes. But it turns on when it isn't needed.

FIGHT OR FLIGHT

Goal: To explain the historical context of the stress response

- Scroll to the "Fight or Flight" slide and state that we are going to think about how stress was created by thinking back to caveman days.
- Ask participants what two options cavemen had when faced with being chased by a sabre-toothed tiger.
- Fight or flight = get aggressive or run away. Success = continue to live, failure = death or injury.
- Stress response is therefore there to increase the odds of survival.

THE STRESS RESPONSE

Goal: To get participants to elaborate on the changes that take place in our body when the stress response takes over

- Explain to participants that they will be divided into 2 small groups where they will see the "Fight Flight Bodily Reaction" slide (show this slide). Their task is to try to label the changes that take place in the body when the stress response sets in.
- Bring everyone back to the main room. Display the slides from the 2 groups and discuss their findings using the "Fight or Flight Bodily Response Answers" slide

THE USEFULNESS OF FIGHT OR FLIGHT WITH TODAY'S STRESSORS

Goal: To make participants realise that the fight or flight response is not particularly relevant with today's stressors

- Ask participants to suggest some of their stressors and compile this list on the whiteboard using the "Our Stressors Today" slide.
- Ask participants how many of these stressors require beating someone up or running away.
- Point out that the fight flight response means our body reacts inappropriately to the stressors we face today, as few of our stressors will be helped by beating someone up or running away.

MODEL OF STRESS

Goal: To consolidate the concept that it is our interpretation of events that makes them stressful

- Ask a participant to volunteer to explain the "Situation- Interpretation-Stress Response" slide
- If the participant fails to do so, highlight that we will only feel and react to stress if we interpret a situation as threatening

<center>**10 MINUTE BREAK**</center>

LIFESTYLE REVIEW

Goal: To provide an opportunity for participants to discuss and clarify the reading material on "The Sustaining Lifestyle"

- Ask for a participant to explain the "Sustaining Lifestyle" slide. Make sure the point is made that an original problem may cause the depression, which then causes the lifestyle distortion, which then makes the problem worse, which then makes the lifestyle distortion worse and so it continues.
- Highlight how in all areas of life it may be necessary to make lifestyle changes so that current lifestyle choices don't serve to worsen the depression e.g.: not seeing friends, exercising little, poor sleep.
- Explain that participants will be divided into 2 groups to make suggestions from the readings about what they have learnt and what they will change regarding their Diet, Physical Activity, Sleep and Caffeine, Drugs and Alcohol.
- Request a volunteer to take charge in each group of moving the slides to the appropriate area (i.e. moving from diet to physical activity etc).
- Explain that a time limit will be set (minimum of 10 minutes but at your discretion according to time) and set the timer in each group.
- Return participants to the main room and discuss common themes.
- Get participants to discuss the "Building Enjoyment into Your Life" activity from the preparatory readings- scroll to the appropriate slide.

IN-SESSION GOAL SETTING

Goal: To get all participants to list a goal they will work on through the week

- Ask each participant to list a goal to be worked on this coming week.
- Seek other participants' feedback

EXPLANATION OF HOME PRACTICE ACTIVITIES

Goal: To clarify the homework for the next week

- Read over "Session Three Pre-Reading"
- Complete the "Personal Goal Setting Form"
- Read "Session Four Pre-Reading" in preparation for next week's activities and complete listed activities.
- Complete the questionnaire located here:
- https://rmit.asia.qualtrics.com/SE/?SID=SV_ey8At5oCt5F6a7q

SESSION FOUR: THINKING ABOUT THINKING

Home Practice Review

Goal: To discuss how participants managed their goal setting activities over the past week

- Welcome participants and explain that as always, they will be broken into 2 groups to review their goal setting activity for the week.
- Divide participants into 2 breakout rooms.
- Ask each participant how they went with their goal-setting task
- Provide reinforcement if they were successful and encourage other group members to do the same
- If unsuccessful, explore the reasons why with the group- was the goal SMART, was it overly ambitious etc.
- Do not let participants reproach themselves for not achieving their goals. Re-explain that they are not expected to have high levels of energy or motivation. Encourage them to scale-back their goals into something less ambitious and more achievable.
- Ask participants about how hard they thought the task would be and how hard it actually turned out being.

GOAL SETTING FOR THE COMING WEEK

Goal: For participants to set a goal to achieve over the coming week.

- Every participant is required to set at least one new goal each week, to be recorded in their "Personal Goal-Setting Form".
- Facilitator to record goals in the "Group Goal-Setting Form".
- If a participant wants more time to think, move onto the next participant and come back to that person
- Enlist the help of other participants to come up with new goals.
- If a participant sets a goal that is too ambitious, solicit the opinion of the group in an effort to scale down the goal.

- Participants can set goals based on the material that is presented in-session. For example, in the lifestyle section participants may choose to decrease their caffeine intake that week.

- Participants may wish to use the same goal each week. Once the participant has experienced at least one success with that particular goal the participant should be encouraged to set an additional goal.

- If a participant has not achieved their goals for that week encourage other group members to suggest a smaller goal for that participant.

- Remind participants that failing to achieve goals is an important clue about the goal-setting process- failure acts as a compass to remind us that the goal was set too high in the first place.

- Encourage participants who have not succeeded with their goal that week to set a different goal this week. It can be in the same area as the previous goal but should not be the same.

- Encourage participants who have succeeded in reaching their goals to set slightly higher ones.

- Return to the main group once every participant has had a turn

SHIFTING THE FOCUS FROM BEHAVIOUR TO THOUGHT

Goal: To explore how thinking influences feelings.

- Use the triangle to remind participants how our experiences are made up of thoughts, feelings and actions and how changing one will lead to changes in the others. Ask for a volunteer to provide a recap on the triangle.

- Remind participants of the *Stress Example* where a situation happens and it seems to cause a reaction through feeling or doing something- use slide 2 to demonstrate.

- Explain how so far we have focussed on doing things to change how we feel, but we are now going to focus on our thoughts- use slide 3 to demonstrate.

- Inform participants that how they react depends on what we think is going on, and not what is really happening.

SAFE AND UNSAFE APPRAISALS

Goal: To illustrate to participants how our responses depend on what we think is happening and not what is really happening.

- Show the participants the picture of the bear outside the tent.

- Ask them to imagine how they would feel and what they would do if they were inside the tent at the time.

- Scroll to the "Bear Outside Tent" and ask the participants to write under their thoughts or actions under the appropriate.

- Scroll to the next slide and ask participants to write in the appropriate column what they would do or think if they did not know that the bear was outside the tent.

- Show the participants the picture of the person being followed.

- Ask them to record thoughts and responses in the appropriate column if they did not know who was behind them and suspected it was a thug.

- Now ask the participants to do the same if they know the person behind them was their partner.

- Make the point that in one situation they would be perfectly safe and in another they would be in danger but our responses depends entirely on what we *think* is happening and not what is *really* happening.

- Ask for participants to volunteer an example of a time when they either thought they were ok but were not, OR when they thought things were not ok but they were.

- Lead a discussion on the Epictetus quote, making sure they get the point that we all live in a world of thoughts, ideas, interpretations and predictions. And that our emotions and actions are based on these internal ideas and not what is going on.

THOUGHTS CAN OCCUR WITHOUT OUR AWARENESS

Goal: To show that thought can occur without awareness

- State that now we know our interpretations influence our thoughts and feelings but that most of the time we aren't aware of them.

- Ask participants to indicate if they play a musical instrument.

- Ask those who indicate yes if they have a favourite piece they can play whilst thinking about or doing something else.

- Ask them what would happen if they had to think about where they place their fingers for each chord- would their speed increase or decrease?

- Make the point that when they learnt to play their instrument it was through a conscious thinking process but now it has become automatic.

- Note that driving a car is similar- in the beginning you have to consciously think of every little thing but with experience it just becomes automatic.
- Make the point that not only can we think automatically but that in some ways we also think better and faster automatically than we do consciously- our ways of thinking become automatic to make life easier.

IDENTIFYING POSITIVE AUTOMATIC THOUGHTS

Goal: To identify positive or adaptive automatic thoughts in participants daily lives.

- Scroll to the "Automatic Thoughts" slide and ask participants to write down any automatic thoughts they have that makes their lives easier such as deciding when to break into conversation at a party, thinking something good is happening when people are smiling etc.
- Encourage participants to include any automatic rules they have that are adaptive and make their lives easier.
- Explain that as helpful as these rules are, everyone has some inaccurate or distorted rules. Explain that when people suffer from depression they can develop distorted automatic thoughts or rules that are negative and can lower mood
- Show the 'Distorted Rules" slide and ask participants for some examples of their own. Request that they think about and contribute the thoughts or rules they have that make them feel worse about themselves or lower their mood.

SITUATION, INTEPRETATION, REPSONSE

Goal: To highlight the relationship between the interpretation of an event and our feelings surrounding the event.

- Scroll to the "Situation, Interpretation and Response" slide.
- Ask everyone to think about a friend who they could arrange a coffee with.
- Tell the participants that they receive a message from someone else informing them that their friend has cancelled the arrangement.
- Ask them for their automatic guess as to what happened to the friend to cause the arrangement to be cancelled.
- Place responses under "Interpretation" column of slide.

- If you are not receiving any negative explanations, ask participants what their interpretation would be if they allowed their depression to talk.

- Remind participants how one negative thought is seldom enough, i.e. that negative thoughts have a habit of feeding on each other.

- Ask participants how they would feel if all their negative interpretations were true, i.e. that the coffee had been cancelled for all the negative reasons listed in the table.

- Now ask participants if it would be normal for others to feel this way, assuming this scenario was true.

- Explain that emotions really are not the problem then, as most people would feel horrible if they thought the scenario was true.

- Now ask participants to imagine that they had been informed that the reason for the cancellation was that their friend had a work emergency. Record how they would respond to this scenario.

- Highlight to participants how it is not the emotions that cause the problem, but the distorted interpretation of events.

- Powerful emotions can arise from distorted interpretations, so it is these interpretations that need to be changed.

CHECKING YOUR INTERPRETATION

Goal: To get participants to reappraise a recent event.

- Explain that participants will be divided into smaller groups for the next 2 exercises.
- In the small groups, ask participants to volunteer a situation where they became discouraged in a big way to a small event.
- Ask for them to identify their Feeling and Behaviour response
- Ask other participants to come up with alternative explanations that are closer to the truth and less anxiety-provoking.

MONITORING AUTOMATIC THOUGHTS

Goal: To review the home practice exercise related to the monitoring of automatic thoughts.

- Ask the participants what they discovered after doing the "Monitoring Automatic Thoughts" exercise for the week.

- Guide the discussion to make the points that
  - Before thinking can be changed we need to recognise what we are saying to ourselves.
  - Recurrent negative thoughts can be linked to distortions.
  - Once distortions are recognised they can be challenged using tools that will be taught at a later stage.
  - Start to learn these tools in the coming weeks.
- Return participants to the main room.

PUTTING YOURSELF DOWN

Goal: To review the "Putting Yourself Down" exercise

- Ask participants how their put-downs affected their mood through the week.
- Ask participants how it worked for them to come up with fairer and more realistic slogans.
- Ask for some examples of these slogans.
- Ask how it felt to repeat these slogans instead of the put-downs.

EXPLANATION OF HOME PRACTICE ACTIVITIES

Goal: To clarify the homework for the next week

- Re-read "Session Four Pre-Reading"
- Complete the "Personal Goal Setting Form"
- Read "Session Five Pre-Reading" in preparation for next week's activities.
  - Identifying Faulty Assumptions
  - Catching Faulty Assumptions
  - Identifying Biases in Thinking
  - Catching Biases in Thinking
  - Thought Challenging
  - Retraining Negative Thinking

MID-POINT QUESTIONNAIRES

Goal: To obtain mid-point data

- Remind participants of the importance of collecting data to chart the progress and success of MoodGroup.

- Direct participants to the Mid-Point Questionnaires located here:

- https://rmit.asia.qualtrics.com/SE/?SID=SV_3rXMUeAex2rsP9G

- https://rmit.asia.qualtrics.com/SE/?SID=SV_71HIJMoTAd0nmeg

- Explain that you will remain in the classroom for an hour should participants wish to discuss anything related to the questionnaires with you.

- Preferable to complete now but can be done during the week if necessary

<div align="center">**SESSION FIVE: THINKING CHANGES**</div>

Home Practice Review

Goal: To discuss how participants managed their goal setting activities over the past week

- Welcome participants and explain that as always, they will be broken into 2 groups to review their goal setting activity for the week.
- Divide participants into 2 breakout rooms.
- Ask each participant how they went with their goal-setting task
- Provide reinforcement if they were successful and encourage other group members to do the same
- If unsuccessful, explore the reasons why with the group- was the goal SMART, was it overly ambitious etc.
- Do not let participants reproach themselves for not achieving their goals. Re-explain that they are not expected to have high levels of energy or motivation. Encourage them to scale-back their goals into something less ambitious and more achievable.
- Ask participants about how hard they thought the task would be and how hard it actually turned out being.

GOAL SETTING FOR THE COMING WEEK

Goal: For participants to set a goal to achieve over the coming week.

- Every participant is required to set at least one new goal each week, to be recorded in their "Personal Goal-Setting Form".
- Facilitator to record goals in the "Group Goal-Setting Form".
- If a participant wants more time to think, move onto the next participant and come back to that person
- Enlist the help of other participants to come up with new goals.
- If a participant sets a goal that is too ambitious, solicit the opinion of the group in an effort to scale down the goal.

- Participants can set goals based on the material that is presented in-session. For example, in the lifestyle section participants may choose to decrease their caffeine intake that week.

- Participants may wish to use the same goal each week. Once the participant has experienced at least one success with that particular goal the participant should be encouraged to set an additional goal.

- If a participant has not achieved their goals for that week encourage other group members to suggest a smaller goal for that participant.

- Remind participants that failing to achieve goals is an important clue about the goal-setting process- failure acts as a compass to remind us that the goal was set too high in the first place.

- Encourage participants who have not succeeded with their goal that week to set a different goal this week. It can be in the same area as the previous goal but should not be the same.

- Encourage participants who have succeeded in reaching their goals to set slightly higher ones.

- Return to the main group once every participant has had a turn

STYLES OF DISTORTED THINKING: FAULTY ASSUMPTIONS

Goal: To explore the concept of Faulty Assumptions.

- Ask participants to take a look at the slide with the optical illusion.
- Ask them to identify what image they see- an old lady or a young woman.
- Explain that faulty assumptions operate in a similar manner- that once you make an incorrect assumption you can process all of the information accurately and still end up with an inaccurate or distorted appraisal- i.e.: if you assume the picture is a young woman you will process all information in the picture accordingly.
- Explain that faulty assumptions more often than not operate outside of our awareness.
- Divide participants into two break-out rooms.
- Ask the participants to identify from the list provided in the reading what their most common faulty assumptions were.
- Ask the participants how these assumptions affect their lives.

- Return participants to the main room.

- Request that each participant make up a statement that challenges their most common faulty assumption. For example, if the assumption is that perfection is mandatory this can be countered with a statement that says "relax, no-one is ever perfect."

- Provide participants with the opportunity to ask questions about the listed faulty assumptions.

STYLES OF DISTORTED THINKING: BIASES IN THINKING

Goal: To explore the concept of Biases in Thinking

- Show participants the optical illusion with the purple filter. Explain that thinking biases are similar to filters. They lead you to end up with distorted views of situations even if you make accurate assumptions.

- Divide participants into 2 break out rooms.

- Ask the participants to identify from their list providing in the reading what their most common Thinking Bias was.

- Ask participants to identify the situations here they are most likely to use this bias.

- Return participants to the main room. Write the most common thinking biases onto the whiteboard.

- Place the suggested reminders (from the reading material) up on the whiteboard next to the description of the thinking bias. Ask participants to volunteer their own reminders.

HANDLING CHANGES IN MOOD

Goal: To explain to participants the "two steps forward, one back" concept

- Ask for a participant to explain the Progress Graph, making sure the point that no-one ever recovers from something in as straight line is emphasised.

- Explain to participants that making some progress whilst experiencing some slides is completely normal.

MOOD TRAPS

Goal: To clarify the concept of mood traps

- Ask participants to match the Mood Traps with their corresponding Key Points by drawing a line to connect each concept on the whiteboard slide.
- Ask participants if there is anything they wish to clarify regarding the four mood traps.

OVERCOMING NEGATIVE THINKING

SIMPLE AWARENESS

Goal: To make participants aware of their distorted thinking patterns.

- Explain that distortions occur outside of conscious awareness and we can begin to influence them when we become aware of them by using this analogy:
'*Imagine you are an executive working at a desk. You are responsible for signing off on all plans produced by your employees before they are actioned. You read some of these documents. And when you do, you are able to catch any mistakes before they do any damage. But sometimes you are unable to read everything and so you sign off documents without reading them. As a result some truly foolish mistakes get past your desk.*

 Automatic thoughts are like the papers that never get examined before they get sent out. They may be accurate or they may be filled with mistakes. If you become aware of the kinds of mistakes that you make, then you can catch them before they influence what you do or how you feel"
- Ask participants to think about a student who feels terrible about himself every time he received an examination or assignment back from his lecturer. He tends to focus on everything he misses and does wrong.
- Instruct participants to read the script on the whiteboard that reflects his thought process.
- Ask participants what they think would happen if the student read this script to himself before receiving work back- get the point made that the student would probably feel better about himself after becoming aware of his distorted thinking as it is difficult to take these wild leaps of logic seriously when they are presented in this manner.

- Ask for participants to explain the situation-interpretation-awareness-response slide, making sure the point is made that being aware of distorted interpretations can reduce the magnitude of people's response to them.

THOUGHT CHALLENGING

Goal: To demonstrate the process of thought challenging

- Request a sample situation from a participant that is relatively simple and led to an emotional over-reaction. Write the situation into the table.
- Ask the participant about the emotions and behavioural responses that this situation induced and note these on the table.
- Ask participants to provide negative interpretations for this situation. Place them under the "Automatic Beliefs" column in the table.
- Ask the group to evaluate how strongly (on a scale of 1 to 100) they evaluate each thought and place in the table.
- Ask the participants to come up with alternate responses for their interpretations.
- Discuss the slide "Tips for Alternate Responses"

SITUATION:		
EMOTIONS:		
BEHAVIOURAL RESPONSE:		
AUTOMATIC THOUGHTS	**BELIEF STRENGTH**	**ALTERNATE RESPONSE**

REPETITION

Goal: To explain to participants the value of repeating their alternate responses.

- Ask for a participant to offer explanations as to why it is important to repeat their alternate responses. Ensure the point is made that we need to repeat this behaviour in order to make it a new habit, one which will replace the habit of the original automatic thought.

- Divide participants into two breakout rooms. Get them to create a list of ways in which they can repeat their alternate responses e.g.: stand in front of a mirror and talk to yourself, write it down on a card etc.

- Bring the group back together and display and discuss both lists.

- Emphasise to participants that they may initially feel false or that they are kidding themselves when they first start using these alternate responses. This is normal as it takes time before the new interpretations take hold

CHALLENGING MODEL

Goal: To clarify where Alternate Responses fits into the model

- Ask for participants to interpret the model depicted on the slide. Ensure the point is made that alternate responses/challenges involves catching the automatic interpretation and then changes it so that an alternative interpretation is substituted. The emotional and behavioural response will then be changed based on the new interpretation.

WORRYING TIME

Goal: To clarify the concept of worrying time

- Ask for participants to explain the idea of worrying time and discuss their experiences of it so far.

- Ensure the following points are covered:
  - Setting aside a fixed worrying time.
  - Having some way to record worries outside of this time.
  - Making sure that the written worries are addressed during worry time.

FACING THE WORST

Goal: To practice facing the worst

- Divide participants into two break-out rooms
- Ask each participant to come up with a stressful situation and get them to answer the two questions on the slide.
- Point out that our bodies react to stressful situations as if they were a matter of life or death and this is usually unnecessary.

WORRY TO THE END

Goal: To practice worry to the end

NOTE: Do not use examples where the escalation of worry could lead to harm or death such as a terminal illness.

- Ask a participant to volunteer a situation they worry about. Get the participant to describe the situation.
- Ask other participants in turn to escalate the worry. For example, if the scenario is a panic attack in the supermarket, get participants to offer further horrible things that could happen.
- Encourage the participants to get silly and bold with their explanations. Eventually the worry will collapse as participants realise that their original worry is most likely survivable or the situation just becomes silly.

RETRAINING NEGATIVE THINKING EXERCISE

Goal: To review this exercise

- Return participants to the main room
- Ask them about their experience of completing the "Retraining Negative Thinking" exercise.

IN-SESSION GOAL SETTING

Goal: To get all participants to list a goal they will work on through the week

- Ask each participant to list a goal to be worked on this coming week.
- Seek other participants' feedback

EXPLANATION OF HOME PRACTICE ACTIVITIES

Goal: To clarify the homework for the next week

- Read over "Session Five Pre-Reading"

- Complete the "Personal Goal Setting Form"

- Read "Session Six Pre-Reading" in preparation for next week's activities.

- Complete the survey located here:

  https://rmit.asia.qualtrics.com/SE/?SID=SV_3L5INSSsCDSbBUE

SESSION SIX: YOUR SOCIAL NETWORK

Home Practice Review

Goal: To discuss how participants managed their goal setting activities over the past week

- Divide participants into 2 breakout rooms.
- Ask each participant how they went with their goal-setting task
- Provide reinforcement if they were successful and encourage other group members to do the same
- If unsuccessful, explore the reasons why with the group- was the goal SMART, was it overly ambitious etc.
- Do not let participants reproach themselves for not achieving their goals. Re-explain that they are not expected to have high levels of energy or motivation. Encourage them to scale-back their goals into something less ambitious and more achievable.
- Ask participants about how hard they thought the task would be and how hard it actually turned out being.

GOAL SETTING FOR THE COMING WEEK

Goal: For participants to set a goal to achieve over the coming week.

- Every participant is required to set at least one new goal each week, to be recorded in their "Personal Goal-Setting Form".
- Counsellor to record goals in the "Group Goal-Setting Form".
- If a participant wants more time to think, move onto the next participant and come back to that person
- Enlist the help of other participants to come up with new goals.
- If a participant sets a goal that is too ambitious, solicit the opinion of the group in an effort to scale down the goal.

- Participants can set goals based on the material that is presented in-session. For example, in the lifestyle section participants may choose to decrease their caffeine intake that week.

- Participants may wish to use the same goal each week. Once the participant has experienced at least one success with that particular goal the participant should be encouraged to set an additional goal.

- If a participant has not achieved their goals for that week encourage other group members to suggest a smaller goal for that participant.

- Remind participants that failing to achieve goals is an important clue about the goal-setting process- failure acts as a compass to remind us that the goal was set too high in the first place.

- Encourage participants who have not succeeded with their goal that week to set a different goal this week. It can be in the same area as the previous goal but should not be the same.

- Encourage participants who have succeeded in reaching their goals to set slightly higher ones.

- Return to the main group once every participant has had a turn

REVISION

Goal: To revise the concepts taught so far.

- Using the questions on the slide, lead a discussion about what the participants are finding most useful and need clarification on.
- Where possible, allow other group members to conduct the revision or explanations.
- Use this time to go through any remaining material from last week's session if all the material was unable to be covered in time.

TOPIC INTRODUCTION

Goal: To introduce the relevance and impact of our social lives and depression

- Lead a discussion that centres around the question posed in the first slide about participants' satisfaction with their social networks.
- Explain to participants that as humans we are inherently social beings and are designed to live in interactive groups. Although we are all capable of living in

solitude, we also have social needs. When these social needs are not fulfilled, emotional problems can result. However, when we have emotional problems, social support can be immensely helpful.

- Divide participants into 2 break out rooms
- Ask participants to brainstorm ideas about how their social life has been impacted by depression. Record these ideas on the whiteboard.
- Return participants to the main room and compare thoughts and ideas

DOUBLE-EDGED SOCIAL SWORD

Goal: To highlight how social networks can both contribute to depression and assist in its recovery.

- Ask participants to think of how social networks can cause or contribute towards feelings of depression but also how they can assist depression. Make sure it is noted that keeping up social lives can be a significant cause of stress when people are depressed, which exacerbates the depression. However, having adequate social supports speeds up our recovery from bouts of depression and helps to maintain our self-esteem.

YOUR SOCIAL NETWORK

Goal: To highlight the difference between an ideal vs an actual social network

- Explain that the diagram represents our social networks and that each concentric circle is a different aspect of that network. Specifically
    - Close friends or intimates
    - Other friends
    - Acquaintances
    - Familiar faces
- Divide participants into two break out rooms
- Show them the diagram with two rings, explaining the top one is their IDEAL social network whilst the bottom one highlights their ACTUAL social network.
- Ask the participants to place numbers of applicable people in each diagram. Suggest they all choose a colour to make it easier to track.

- Explain to participants that everyone will have different ideas about how many people they want or need in each ring.

- Further explain that it is very common to experience a difference between the ideal number and the actual number, but that the problem comes in when this number is too large.

- Ensure that people are answering the question in terms of their idea *well* situation. It is possible that as a result of their depression they do not feel like having anyone around them.

- Return participants to the main room

CREATING SOCIAL CHANGES

Goal: To provide participants with an overview of how this session will prepare participants to make social changes.

- Explain to participants that now that some problems have been identified in their social networks the remainder of the session will be spent learning how to make changes.

- Point out the triangle and explain that three key areas will be targeted:
  - Deepening existing relationships
  - Reviving old friendships
  - Starting new friendships

DEEPENING CURRENT FRIENDSHIPS

Goal: To provide participants with strategies to deepen their current friendships

- Discuss the "Deepening Current Relationships" slide and ask participants what aspects they have particular difficulty with.

- Lead a discussion on the "Deepening Your Relationships" exercise that participants completed in their pre-reading.

REVIVING OLD FRIENDSHIPS

Goal: To provide participants with strategies to revive their old friendships

- Ask participants to suggest why working to revive old friendships might be advantageous. Reasons include:
  - Compatibility
  - Intimacy
  - History
  - Common interests
- Ask participants to create a list of their barriers to reviving their old friendships and get them to formulate possible suggestions.

➢ **Distance.**

For those who have moved recently, this can be a major problem. Talk about some of the ways of bridging distance (telephone, letters, email, shared vacations). Perhaps the group will have other ideas for those who have lost social contacts in this way. Long distance friendships should ideally not be the only social contact people have, but they should not be ignored as valid and reasonable sources of support.

➢ **Disagreements.**

At the time of an argument, the importance of the issue may seem to outweigh the importance of the relationship. As time passes, the issue often fades in importance. Sometimes you even forget what the issue was. Maybe now the relationship seems more important.

➢ **Insecurity.**

Acknowledge and normalize the fears that people have when reconnecting. Calling up someone who has stopped calling us will activate a sense of insecurity in almost anyone. Do they really want to hear from you? The only way to know is to check it out and see.

➢ **Abandonment.**

Some people drift away *not* because they are inconsiderate, but because they thought *you* weren't interested in *them*! A therapist role-play can illustrate this principle nicely. Mimic a person sliding into a period of depression and apathy as you turn down a series of invitations to lunch (don't make a parody of it). ("Oh, thanks for

asking, but I'm afraid I'm busy that day." A few weeks later: "Oh, uh, I'm sorry but I can't." And later still:

➢ "No...um...not now.") You can end by saying that the last two attempts only get your answering machine and you don't return the phone calls.

➢ Ask your participants what they would do if a friend responded this way to them. They will almost always say that they would give up on the friend and assume they weren't interested in pursuing the relationship. Then ask what you were *really* doing. It comes as a big surprise to many to hear that you were role-playing a person with depression (or burnout, or crisis). The point: During depression and crisis most people give off signals that seem to say

➢ "Go away, I'm not interested." Some of the people who have drifted away may have done so because they thought the *client* was deserting *them*. This isn't always true (some people really do reject friends who have problems), but it happens extremely frequently. The recommendation: Before you write them off as friends, contact them to see what really happened.

➢ **Insensitivity.**

Many clients lose patience with well-meaning but uninformed friends who behave insensitively toward them ("You just need to relax!" "Yeah, I was depressed too last Monday; it lasted about an hour..."). Some clients decide that they no longer want to associate with people who can't understand what they've been through. Unfortunately, this can mean dumping almost everyone in their social network. This is generally a bad idea. The following can help overcome the anger: "Think back to a time before this problem started for you. Now imagine that a friend of yours tells you that she has been going through the same thing (depression, job loss, bereavement, or whatever). Would you have really understood it at that time?" Many people are startled to realize that they would have been just as insensitive themselves until they had direct experience of the problem. This helps to humanize the image of the "insensitive clods."

The recommendation: "Try to have patience with the people who don't seem to understand. Try to educate them a bit with pamphlets or books. But recognize that they will never understand completely unless they go through it (and would you wish that on them?). *Let them* not understand completely. But make sure that you have at

least one person in your life who has been through it and will really know what it's like."

- Lead a discussion on the "Reviving Old Friendships" exercise that participants completed in their pre-reading.

STARTING NEW FRIENDSHIPS

Goal: To provide participants with strategies to start new friendships

- Ask participants why it is so important NOT to focus on meeting new people, but rather on getting involved in interests and activities that will provide them with new contacts.
- Brainstorm ideas and locations to meet new people such as church, the gym, a sewing group etc.
- Ask participants if they require any clarification on the pointers for meeting people as described in the pre-readings.

IN-SESSION GOAL SETTING

Goal: To get all participants to list a goal they will work on through the week

- Ask each participant to list a goal to be worked on this coming week.
- Seek other participants' feedback

EXPLANATION OF HOME PRACTICE ACTIVITIES

Goal: To clarify the homework for the next week

- Read over "Session Six Pre-Reading"
- Complete the "Personal Goal Setting Form"
- Read "Session Seven Pre-Reading" in preparation for next week's activities.
- Complete the surveys located here:
- https://rmit.asia.qualtrics.com/SE/?SID=SV_erKXVARxKARRnPm
- https://rmit.asia.qualtrics.com/SE/?SID=SV_0obw6QdJ3BYe2Nu

SESSION SEVEN: BUILDING SOCIAL SKILLS

Home Practice Review

Goal: To discuss how participants managed their goal setting activities over the past week

- Divide participants into 2 breakout rooms.

- Ask each participant how they went with their goal-setting task

- Provide reinforcement if they were successful and encourage other group members to do the same

- If unsuccessful, explore the reasons why with the group- was the goal SMART, was it overly ambitious etc.

- Do not let participants reproach themselves for not achieving their goals. Re-explain that they are not expected to have high levels of energy or motivation. Encourage them to scale-back their goals into something less ambitious and more achievable.

- Ask participants about how hard they thought the task would be and how hard it actually turned out being.

GOAL SETTING FOR THE COMING WEEK

Goal: For participants to set a goal to achieve over the coming week.

- Every participant is required to set at least one new goal each week, to be recorded in their "Personal Goal-Setting Form".

- Counsellor to record goals in the "Group Goal-Setting Form".

- If a participant wants more time to think, move onto the next participant and come back to that person

- Enlist the help of other participants to come up with new goals.

- If a participant sets a goal that is too ambitious, solicit the opinion of the group in an effort to scale down the goal.

- Participants can set goals based on the material that is presented in-session For example, in the lifestyle section participants may choose to decrease their caffeine intake that week.

- Participants may wish to use the same goal each week. Once the participant has experienced at least one success with that particular goal the participant should be encouraged to set an additional goal.

- If a participant has not achieved their goals for that week encourage other group members to suggest a smaller goal for that participant.

- Remind participants that failing to achieve goals is an important clue about the goal-setting process- failure acts as a compass to remind us that the goal was set too high in the first place.

- Encourage participants who have not succeeded with their goal that week to set a different goal this week. It can be in the same area as the previous goal but should not be the same.

- Encourage participants who have succeeded in reaching their goals to set slightly higher ones.

- Return to the main group once every participant has had a turn

SOCIAL BALANCING

Goal: To highlight that when experiencing depression it is common for people to either shift towards focussing on themselves or attending to others.

- Begin with attending to others. Ask participants to list their behaviours that indicate they prefer attending to others. Examples include: Deflecting questions about you, focussing more time on others, not going into detail about current problems.

- Ask participants to suggest reasons for this behaviour.

- Ask about the effects this behaviour may have both on the participant and on others.

- Ask for suggestions to change this behaviour.

<u>Focussing on the self</u>

- Ask participants to list behaviours that indicate they focus more on themselves when depressed. Examples include: Talking at length about self and problems, withdrawing from social contact, not offering assistance to others.

- Ask participants to suggest reasons for this behaviour.

- Ask about the effects this behaviour may have both on the participant and on others.

- Ask for suggestions to change this behaviour.

- Lead a discussion on the "Social Balancing" exercise in the pre-reading.

- Get participants to set goals about creating more of a social balance and discuss ways in which to achieve this.

ASSERTIVE COMMUNICATION

Goal: To make participants aware of ways in which to be more assertive

- Divide participants into two break-out rooms. Ask them which column from the Assertiveness Exercise in their pre-reading they ticked the most (Passive, Aggressive or Assertiveness).
- Make the point that being assertive does not mean getting your own way the whole time and changing others, rather it is about being in charge of your own behaviour and letting others be in charge of theirs.
- Ask participants why assertiveness is a good idea. Answers can include:
  - Setting your own boundaries places control in your hands.
  - It involves taking charge of yourself and your actions.
  - It allows you to choose your own actions.
- Return participants to the main room

KEY POINTS ABOUT ASSERTIVENESS

Goal: To clarify the key points about assertiveness described in the pre-reading

- Ask for participants to volunteer to explain a key point.
- Clarify points as needed

ASSERTIVENESS SKILLS IN PRACTICE

Goal: To give participants a chance to rehearse some skills they have difficulty with

- Divide participants into two break-out rooms
- Establish from the participants what skills they found the hardest after they completed the "Assertiveness Skills in Practice" exercise in the pre-reading.
- Return participants to the main room and do the suggested activities for the top three skills they have difficulty with.

  USE BODY LANGUAGE EFFECTIVELY
  - Discuss assertive and non-assertive body language.

- Encourage participants to practice this in front of a mirror.

FIND OUT WHAT IS REALLY GOING ON

- Ask for participants to volunteer a scenario that has caused a disagreement in the past with another person.
- Ask for a second participant to role-play the second person.
- Get both participants to explain what is going on for them.

BE HONEST ABOUT YOUR OPINION

- Get participants to practice making "I" statements to make it clear that they own their opinion.

EXPRESS HOW YOU FEEL

- Ask participant to think about situations where they felt angry, sad, disappointed or bad in some other way.
- Get them to phrase the statement by saying *"when (insert situation) I feel (insert emotion)"*.

BE CLEAR ABOUT WHAT YOU WANT

- Get participants to provide statements about what they want from others.
- Make them re-phrase them so they are observable and measurable so it becomes clear EXACTLY what they mean.

FIND OUT WHAT OTHERS WANT FROM THEM

- Get a participant to volunteer a statement about what he/she wants from someone.
- Get another participant to ask questions about this statement until it is re-framed in an observable and measurable manner. Explain that it is important that people learn how to ask others what they want or mean.

DON'T TRY TO WIN

- Get participants to volunteer two opposing viewpoints or actions
- Get them to negotiate a compromise

THE ASSERTIVENESS PITFALL

Goal: To clarify that things may get worse initially when participants become assertive

- Show the participants the "Assertiveness Pitfall" graph and ask for them to attempt to explain it.

- Make sure the point is made that as people initially become more assertive others may make more demands on them or act worse but as others learn that you will not budge their behaviours will lessen.

- Provide the example of a colleague constantly giving someone work to do. If that person says no one day the chances are the colleague will keep pushing but if the person stays firm and refuses to do the work these demands will eventually cease.

GUIDELINES FOR SETTING BOUNDARIES

Goal: To work through the guidelines for setting boundaries

- Get participants to discuss each of the four guidelines for setting boundaries. Ensure the following points are covered:

- *Only set barriers you can and will defend-* if the person pushing you knows you are bluffing they will push harder and get you to back down.

- *Don't start to get assertive when you are strained to the limit-*Things will get worse before they get better. If you are not in a position to handle the extra pressure wait until you are before getting assertive.

- *Don't back down-* If people learn that you will back down when pushed they will only push harder and become more obnoxious.

- *Don't get assertive with everybody all at once-* It is hard enough to handle one person getting obnoxious, let alone a few all at once.

CHECKPOINT: ASSERTIVENESS IN ACTION

Goal: To review the "Assertiveness in Action" exercise in the pre-reading.

- Discuss what participants discovered after completing the "Assertiveness in Action" exercise.

- Find out what strategies participants suggested to become more assertive.

- Ask participants about the situation they identified as being on in which they wish to become more assertive. Get other participants to suggest ways to make this possible.

IN-SESSION GOAL SETTING

Goal: To get all participants to list a goal they will work on through the week

- Ask each participant to list a goal to be worked on this coming week.
- Seek other participants' feedback

EXPLANATION OF HOME PRACTICE ACTIVITIES

Goal: To clarify the homework for the next week

- Read over "Session Seven Pre-Reading"
- Complete the "Personal Goal Setting Form"
- Read "Session Eight Pre-Reading" in preparation for next week's activities.
- Complete the surveys located here:

  https://rmit.asia.qualtrics.com/SE/?SID=SV_erKXVARxKARRnPm

<p style="text-align: center;">**SESSION EIGHT: KEEPING WELL**</p>

Home Practice Review

Goal: To discuss how participants managed their goal setting activities over the past week

- Divide participants into 2 breakout rooms.

- Ask each participant how they went with their goal-setting task

- Provide reinforcement if they were successful and encourage other group members to do the same

- If unsuccessful, explore the reasons why with the group- was the goal SMART, was it overly ambitious etc.

- Do not let participants reproach themselves for not achieving their goals. Re-explain that they are not expected to have high levels of energy or motivation. Encourage them to scale-back their goals into something less ambitious and more achievable.

- Ask participants about how hard they thought the task would be and how hard it actually turned out being.

GOAL SETTING FOR THE COMING WEEK

Goal: For participants to set a goal to achieve over the coming week.

- Every participant is required to set at least one new goal each week, to be recorded in their "Personal Goal-Setting Form".

- Counsellor to record goals in the "Group Goal-Setting Form".

- If a participant wants more time to think, move onto the next participant and come back to that person

- Enlist the help of other participants to come up with new goals.

- If a participant sets a goal that is too ambitious, solicit the opinion of the group in an effort to scale down the goal.

- Participants can set goals based on the material that is presented in-session For example, in the lifestyle section participants may choose to decrease their caffeine intake that week.

- Participants may wish to use the same goal each week. Once the participant has experienced at least one success with that particular goal the participant should be encouraged to set an additional goal.

- If a participant has not achieved their goals for that week encourage other group members to suggest a smaller goal for that participant.

- Remind participants that failing to achieve goals is an important clue about the goal-setting process- failure acts as a compass to remind us that the goal was set too high in the first place.

- Encourage participants who have not succeeded with their goal that week to set a different goal this week. It can be in the same area as the previous goal but should not be the same.

- Encourage participants who have succeeded in reaching their goals to set slightly higher ones.

- Return to the main group once every participant has had a turn

COURSE REVIEW

Goal: To review the content of the course.

- Lead a discussion about what participants found most useful in the course, what they want clarification on and what they are still struggling with.

- Run through the summary slides and request that participants briefly explain each slide in turn.

PREVENTING FUTURE DIFFICULTIES- WHY WE STOP TAKING CARE OF OURSELVES

Goal: To explain the reasons for people slipping back into depression

- Lead a discussion on the reasons for people failing to take care of themselves and slipping back into old habits.

- Ensure these points are covered:
  – People may feel like they deserve a break for working so hard on themselves but their break is feeling better, which won't continue if they stop working on themselves.

- People may feel that they are no longer depressed and feel "good enough". They are less motivated to work on themselves as their pain is no longer the primary motivator.
- People may feel that their depression was such a nightmare that they want to forget all about it. As self-care strategies are part of that depressive period they want to negate those too.

REASONS TO MANAGE LIFE WHEN FEELING WELL

Goal: To make participants aware of reasons why it is important for them to continue to manage their lives positively when they are feeling better.

- Ask participants to suggest reasons why it is important to manage their lifestyle once they are no longer feeling depressed.

PREVENTING DEPRESSION FROM RETURNING

Goal: To provide participants with strategies about preventing relapse.

- Ask participants to create a list of life events that may cause additional stress, pointing out that they can be positive or negative.
- Ask participants to suggest reasons as to why these life events may bring about a recurrence of depression. Use the PP slide to make the point that a major life event requires adjustment which can create stress.
- Ask for volunteers to discuss each of the points on the "Planning for Stress" slide.
- Ask different participants to explain a stress management strategy and provide an example from their own lives as to how to implement this.
- Divide participants into 2 break out rooms
- Ask each participant to predict a period of a few weeks where they will encounter greater stress- ask them to elaborate on the causes of this and when it is likely to come.
- Ask participants to formulate a coping plan for this stress.
- Return participants to the main room.

THE SIGN IN THE ROAD

Goal: To help participants obtain insight into how their past behaviour has contributed to their present difficulties.

- Ask participants to identify a behaviour, situation or pattern that has contributed to their depression in the past.
- Explain that this is the "OLD ROAD" and that it is normal to find yourself wanting to travel it again.
- Remind participants that what lies on that road is depression- that is where they will end up if they continue to travel down it.
- Ask participants to list signs that they are about to travel down that road.
- Request that they make a big STOP sign when they recognise those signs.
- Ask them what they would like to tell themselves when they put the STOP sign in place.
- Ask what they will do instead

THE MOOD EMERGENCY ACTION PLAN

Goal: For participants to develop an action plan to use if their depression recurs.

- Divide participants into two break-out rooms
- Ask participants why it might be important to have a mood emergency action plan
- Go through each of the strategies one at a time, encouraging participants to list their own examples with each one.
- Encourage participants to make up a list that details each of these points and store it in a safe place. It is also a good idea to distribute copies to trusted loved ones.

SAYING THANK YOU

Goal: To allow participants the chance to thank each other for the way they have assisted each other through the program

- Explain to participants that this will be the last time that everyone will be together in a group. Write up a participant's name one at a time on the whiteboard and request that each participants say something positive about that person or how that person has assisted them to move forward.

SAYING FARWELL

Goal: To allow participants time to say goodbye

- Provide an open forum to allow participants to say their goodbyes to each other.

END-POINT EVALUATION

Goal: To encourage participants to complete the end-point questionnaires and emphasise their importance.

- Provide the link to the questionnaires and explain to participants the importance of completing them.
- Remind participants that they will be emailed in 1, 3 and 6 months with similar questionnaires to check on their progress
- https://rmit.asia.qualtrics.com/SE/?SID=SV_3reUtBP8sH1mniY
- https://rmit.asia.qualtrics.com/SE/?SID=SV_e2MvHqmRKtIviDi

Complete participation certificates and email to clients

Appendix C: MoodGroup Session Templates

Session 1 Template

How did everyone go with the readings this week? Click the green tick button if you completed them.

Great effort.

Would someone like to have a go at explaining the Triangle?

Would someone else like to have a go at explaining the job loss example?

I would like us to spend about 10 minutes having a discussion about the Triangle as a group and to come up with some examples of how the Triangle interacts.

I would now like each of you to write your name next to the side of the triangle that gives you the most trouble.

You can probably see that emotions are not the main problem after all. In fact working on actions and thoughts are what can change feelings.

Now I would like you to write you names next to the side of the triangle that would be easiest to change.

For most people most of the time behaviour is easiest to change followed by thoughts followed by emotions.

How would each of you go about changing your feelings?

Ok, looking at your responses we can see that in fact you would try to change your feelings by changing the way you act and think. Can everyone see that?

Question, what happens when you really try hard to feel a certain way, for example when you try to feel happy instead of depressed?

Right, so forcing emotions to change generally only serves to make them stronger. Usually, the more we try to force ourselves to be happy, the sadder we become.

What were you impressions of the River exercise?

The main point of that exercise is that if we open ourselves up to our feelings and recognise they are just feelings and are not lethal or dangerous then they will tend to have less power, become less intense.

It's important that you understand that you do not really need to work on your feelings. By simply accepting and acknowledging their presence, you can change the impact that your feelings have. You do this by working or your actions and thoughts. The goal of feeling better will not be achieved by resisting negative feelings. By spending less energy fighting these feelings and more energy working on actions and thoughts you will create positive change.

Imagine that for some reason you wanted to feel worse for a while. Let's pretend that you would get paid $1000000 if you could make yourself feel worse for 30 minutes. How would you do it? What would you try to make yourself feel worse?

I would like each of you to provide one suggestion. Please do this in the chat box not on the whiteboard because I will be putting them up there.

Any other ways?

What do you think these columns are about?

Can you see that most people mentioned thoughts and actions, not feelings….

The columns have been divided into thought and actions. This table shows you actions and thoughts can affect feelings negatively. But the good news is, that actions and thoughts can also affect feelings positively.

When we feel one way, it is natural for our activities and our thoughts to follow suit. So if you feel depressed, the natural tendency is to do and think things that will make you feel worse. Getting better involves going against these natural tendencies.

I would like you to now provide some opposing thoughts and actions for the examples you provided before. You can put your feel worse actions and the opposing positive thoughts and actions onto the slide.

Often, depression can cause people to overestimate the difficulty of completing an activity. Would anyone like to provide an example a task they estimate to be quite difficult and then to assess the actual difficulty of completing the task?

I'm certainly not saying that all tasks are easy. Only that depression can make actions seem more difficult than they really are. Most often actions are rarely as difficult as anticipate.

I encourage you to try to compensate for you overestimation by pushing yourselves to do things that you might be tempted to avoid because you have anticipated that they might be too difficult.

Sometimes you might have experiences where you feel like you know what you would like to be doing but you just don't feel like doing it. Has anyone felt like that?

Have a look at the Rewarding Activities sheet from the readings. I would like you to identify the activity you would most like to do. Why haven't you done this activity yet?

Often, people experiencing depression are waiting for that moment for energy and motivation to strike but it rarely just arrives. You need to push a little to gain some momentum.

I would like you to spend a few minutes now discussing amongst yourselves yow you might overcome stuckness when you lack energy and motivation.

Your discussion reflects the concept that the boulder is heavy and it requires a heavy push but once moving it will gather its own momentum.

I would like you to have a go at explaining the "Defying Stuckness" in your own words.

It's important to understand that achieving goals, no matter how small will lead to an increase in motivation and energy.

Does anyone want to try to interpret this slide? What is this graph telling us?

The graph shows someone who has set her goals at a specific level (dotted line), and is able to achieve these goals for a period of time (purple line at or above dotted line). However, over time these goals are not met, possibly due to a life stress such as depression. The area under the graph is related to levels of motivation and energy.

What about the "Adjusted Goals" graph? Does anyone want to have a go at interpreting it?

Great, so the "high" goal is the expected goal before depression. But depression saps a persons energy and motivation making it impossible to achieve this goals. The experience of failure further saps energy and motivation. The "low" dotted line reflects the need to set goals appropriate to the participants current situation. They are achievable stepping stones. Setting small goals makes it possible to achieve them and this success serves to increase energy and motivation. Overtime goals can gradually be increased. Motivation and energy will increase rapidly as success becomes more frequent.

So that's the end of tonight's session. I will send you all the readings for next session. I also encourage you to re-read the readings for tonight's session to consolidate the information. Don't forget to complete the writing exercise included in next week's readings called "Turning Problems into Goals and Goals into Plans". I'll also send you the link to this week's questionnaire.

Thanks again for your participation. See you next week.

Session 2 Template

Hi everyone. I was thinking the other day that this group is the first of its kind around the world to be conducted in the online format and evaluated in this way. So in many ways we are all online-MoodGroup-pioneers. I think that's pretty cool.

Did everyone manage to complete the readings for this week? Tick the green button if you did.

Immediate and Ultimate Goals

If there were more of you we would divide you into groups but as there are just a few we will complete the exercises together.

Tonight we will be looking at goal setting as you already know from the readings. So to get us started, can someone give us a definition and also an example of "Immediate goals"? You can write it on the whiteboard.

Great, that's excellent. Can someone else give us a definition and an example of "Ultimate goals"?

OK, using the new screen I've got two lists. On one side we'll have ultimate goals and on the other immediate goals. First, can someone suggest some ultimate goals to work on?

Great. You've worked it out. Put your immediate goals to help achieve the ultimate goal under the heading.

Problem List and Problem I Picked

I encourage you now to share with the group the actual problem you have chosen to work on and to discuss the reasons for picking your particular problem. If you are willing to share your problem you can write it up in whatever colour you choose onto the whiteboard under "Problem I Picked".

How did you go about turning your problem into an Ultimate Goal? In the same colour as you used before, you can put your Ultimate Goal under the appropriate heading on the whiteboard.

Breaking Problems and Goals into Bits and Pieces

Who would like to share with the group a problem and its associated bits and pieces?

You can type the problem and its bits and pieces on the whiteboard.

Which bit of the problem have you identified that you want to work on?

Let's have a bit of a brainstorm. Can anyone else come up with any possible solutions for that bit. Write any potential solutions on the whiteboard.

How easy/difficult have you found this process?

Smart Goals

What are your thoughts/comments about SMART goals in the readings for this week?

I would like each of you in turn to provide an example of an immediate goal. Can everyone else run through the SMART principles to check to see if the goal is a SMART goal? Does it fit with the criteria?

How would you change it to make it SMART?

Tips for Immediate Goals

Let's have a look at the Tips for Immediate Goals now. Can each of you choose a tip and try to explain it to the group?

Next we have Common Pitfalls. These are important to be aware of. Would everyone like to share with the group the kinds of pitfalls that you experience?

In-session Goal Setting

What I would like to do now is to have each of you come up with a goal to be worked on in this coming week. I encourage you to give each other feedback about your goals and to check whether it's a SMART and Immediate goal.

Explanation of Home Practice Activities

Finally, here are the home practice activities for the week.

1. Re-read the readings from this week to consolidate what you've learnt.

2. Complete your "Personal Goal Setting Form".

3. Read the Session 3 readings to prepare for next week's activities which I will email you

4. And complete the questionnaires which I will email you the link to along with readings

Session 3 Template

Home practice review

How did you both go with your goal setting task this week?

I'd like you to set a new goal for this week. Has anyone got any they would like to share?

What got in the way of you achieving your goals this week?

Remember that the aim of reviewing what happened for you is not about giving yourself a slap on the wrist. You are not expected to have high levels of motivation or energy. Maybe it would be a good idea to scale back your goals somewhat to something less ambitious and more achievable. That can be a start point from which to build on.

I am also interested to know how expectations compared with reality. When you set your goals how hard did you expect it to be to achieve it? And how hard was it in reality?

I'd like to hear from everyone about their goals for the coming week. What goals have you set?

What is Stress?

We are now going to talk about the concept of stress.

I'd like you all to explain what stress means to you. How would you describe it? Please just use the chat box for you discussion rather than the whiteboard.

How would you describe the difference between a stressor and a stress response?

That's right. So a stressor is something that people see as threatening in some way whereas a stress response is the complex set of changes that happen in our body to help us to deal with the stressor.

Allergic Reaction Analogy

It can be helpful to see the stress response as something that happens when our bodies react or over-react to a situation.

Can anyone think of any other "helper" responses in the body that does more harm than good?

If you consider the "allergic reaction" analogy, it is not the thing that people are allergic to that is the problem but rather their immune system's overreaction to it that creates difficulties. Similarly, the stress response is a complex set of bodily changes designed to help us cope with dangerous changes. The problem is that it switches on ever when it isn't needed.

We are going to think about how stress was created by thinking back to the cavemen days. What two options did cavemen have when faced with a sabre-toothed tiger?

That's right. They could get aggressive and fight or else flight – in other words, run away. If they were successful they would live and if they were not they would die or be injured. Therefore, their stress response increased the chances of survival because if they didn't react at all then they would surely not survive.

The Stress Response

I would like you to have a look at the slide on the screen. Can you have a go at labelling the changes that take place in the body when a response sets in?

The Usefulness of Fight or Flight with Today's Stressors

I would like you all to have a think about the types of stressors that you face.

How many of the stressors that you've listed require you to beat someone up or run away?

So you can see that the fight or flight response means that our body reacts inappropriately to the stressors we face today as very few of our stressors will be helped by beating someone up or running away.

Model of Stress

Would someone like to have a go at explaining the information on the whiteboard?

What it is saying is that we only feel and react to stress if we interpret a situation as threatening.

Lifestyle Review

Can anyone explain the "Sustaining lifestyle" slide on the whiteboard?

It's a cycle: an initial problem may cause the depression, which then causes the lifestyle distortion, when then makes the problem worse, which then makes the lifestyle distortion worse, and so it continues.

To help break the cycle it may be necessary to make lifestyle changes in all areas of life so that current lifestyle choices don't serve to worsen the depression e.g. not seeing friends, exercising little, poor sleep etc.

I would like you all to make some suggestions from the readings about what you have learnt and what you will change regarding your diet, physical activity, sleep and caffeine, drugs and alcohol.

Has anyone noticed any common themes among the group members?

What do you think about the "Building enjoyment into your life" activity?

In-Session Goal Setting

Can each of you list a goal that you will be working on this coming week? I would be interested to see some feedback from each of you about the goals that others have set i.e. are they SMART goals.

Explanation of Home Practice Activities

Here are the home practice activities. I will email you them again as a reminder. Also please complete the surveys as soon as you get a chance.

- Re-read Session Three Preparatory Readings

- Complete a Personal Goal Setting Form for this week

- Read Session Four Preparatory Readings and complete all associated activities.

  ➢ Checking Your Interpretations

  ➢ Monitoring Automatic Thoughts

- Please complete this questionnaire ASAP:

- https://rmit.asia.qualtrics.com/SE/?SID=SV_ey8At5oCt5F6a7q

Session 4 Template

Home Practice Review

I've been reviewing our sessions over the previous few weeks and I've noticed how well everyone is working together and supporting each other which is excellent. I've also noticed that sometimes we are moving along with the session content when people are chatting with one another and that can sometimes appear as though people's remarks are being ignored. We do have quite a few exercises to get through in a session but I was thinking we could manage this in one or two ways. We could skip some of the session content if people want more chatting time? Or you could use the individual chat function to start a conversation with a specific person in the group? You do this by double clicking on the person's name from the main room list. I will still be able to see the conversation but it will allow you to chat or make further comments while the next exercise/activity is being set up. What do you think?

I would like to review the goal setting activity from last week. How did you all go?

As I said last week, you are not expected to have high levels of energy or motivation. Take it easy on yourself. If you haven't quite achieved your goals perhaps you might want to have a look at them and scale-them down a bit. It might be that they are a little too ambitious for now.

I would also be interested to know how hard you thought the task would be and how hard it turned out to be. Were your prior assumptions the same as the reality of doing the task?

Goals for the Coming Week

I'd like everyone to set at least one new goals for the next week. We will do this each week. I'd also like you to record these goals on your "Personal Goal-Setting Form" so you can monitor your progress in achieving your goals.

If you are using the same goal each week I'd encourage you, once you've experienced some success in achieving that goal, to set an additional goal for you to work towards.

Shifting Focus from Behaviour to Thought

Remember this triangle? Would someone like to refresh our memories and explain the triangle?

That's right, thoughts, feelings and actions all interact and changing one of these elements will lead to changes in the others.

Remember the work we did around stress? A situation occurs and it seems to cause a reaction either through feeling or doing something. In the group so far we have focused on doing things to change how we feel. Now we are going to shift our attention to our thoughts.

We have already heard some examples previously about assumptions and expectations versus the reality of doing something. What we now know is that the way that we react depends on what we <u>think</u> is going on, and not what is really happening. Our interpretation of events dictate our behaviour and ultimately our feelings. Does that make sense to everyone?

Safe and Unsafe Appraisals

I would like you now to imagine how you would feel and what you would do if you were inside the tent at the time.

Using the whiteboard, write down your thoughts and actions under the appropriate headings.

What about if you did not know that bear was outside the tent. What would you do and think in that situation?

Let's look at another example. Again, imagine you are being followed, what would you think and do in that situation if you suspected it was a thug?

What about if the person behind you turns out to be your friend or partner?

You might have realised from these examples that in one situation you would be perfectly safe and in another you would be in danger but your response depends entirely on what you think is happening and not what is really happening.

Can anyone provide an example of a time when you either thought you were ok but were not, or when you thought things were not ok but they were?

I'd like to have a discussion about this quote. What does it mean to you?

Back to the quote. I think X summed it up nicely. That is that we live in a world of thoughts, ideas, interpretations and predictions and our emotions and actions are based on these internal ideas and not what is going on.

Thoughts Can Occur without Our Awareness

So we now know that our interpretations and predictions influence our thoughts and feelings but most of the time we aren't aware of them.

Does anyone play a musical instrument?

Do you have a favourite piece you can play whilst thinking about or doing something else?

What would happen if you had to think about where you placed each finger for each chord? Would your speed increase or decrease?

OK, so it would be slower but over time with practice it becomes quick and automatic. This happens through a conscious thinking process that happens over and over again until it becomes automatic and doesn't require the conscious thought, only automatic thought.

And to revisit our driving example from earlier, it is the same learning to drive a car. At first, we have to consciously think of every little thing but with experience changing gears, indicating, braking, steering just becomes automatic.

It's important to know that not only can we think automatically but in some ways we also think better and faster automatically than we do consciously. Our ways of thinking become automatic to make like easier.

Identifying Positive Automatic Thoughts

I'd like you to write down any automatic thoughts or rules that you have that make your lives easier.

As helpful as these rules are, everyone has some distorted or inaccurate rules. This can especially be the case when people are suffering from depression. With depression, people can develop distorted automatic thoughts and rules that are negative or unhelpful and that can lower their mood.

I'd like you to have a think about and write on the whiteboard any thoughts or rules that you have that make you feel worse about yourselves or lower your mood.

Situation, Interpretation, Response

I'd like you to think about a friend who you could arrange a coffee with. Imagine that person and that you have made arrangements to meet for a coffee.

Now you receive a message from someone else telling you that your friend has cancelled the arrangement to meet for a coffee. What are your automatic guesses about what happened to the friend to cause the cancellation? Write your guesses under the "interpretation" column on the whiteboard.

Remember, usually one negative thought is never enough. Negative thoughts have a habit of feeding off one another and they usually multiply.

How would you feel if all of your negative interpretations were actually true?

Would it be normal for other people to feel the same way under these circumstances?

So this highlights that emotions aren't the problem because most people would feel horrible if the scenario was true.

Now imagine that you had been told that the reason for the cancellation was that your friend had a work emergency. How would you have responded to this scenario?

OK, so again, it's not the emotions that cause the problem but the distorted interpretation of events. Powerful emotions can arise from distorted interpretations so it is these interpretations that need to be changed.

Checking your Interpretation

Can you now think about a situation where you became discouraged in a big way to a small event? I'd like you to identify your feeling and your behaviour response.

Good. Now can anyone else think of any other alternative explanations that are closer to the truth, more helpful, and less anxiety-provoking?

Monitoring Automatic Thoughts

What did each of you discover after doing the "Monitoring Automatic Thoughts" exercise for the week?

Putting Yourself Down

What about the "Putting Yourself Down" exercise? How did your put-downs affect your mood through the week?

How did it work for you coming up with fairer, more balanced, or realistic slogans?

Would anyone like to give us some examples of the kinds of slogans you came up with?

When you repeat these kinds of slogans instead of the put-downs, how did it feel?

In-session Goal Setting

What goals are being worked on for the coming week?

Explanation of Home Practice Activities

Here are the home practice activities. I will email you them again as a reminder. Also please complete the surveys as soon as you get a chance.

- Complete the Evaluation Questionnaires
- https://rmit.asia.qualtrics.com/SE/?SID=SV_3rXMUeAex2rsP9G
- https://rmit.asia.qualtrics.com/SE/?SID=SV_71HIJMoTAd0nmeg
- Re-read Session Four Preparatory Readings
- Complete the Personal Goal Setting Form
- Read Session Five Preparatory Readings and complete associated activities:
  - ➢ Identifying Faulty Assumptions
  - ➢ Catching Faulty Assumptions
  - ➢ Identifying Biases in Thinking
  - ➢ Catching Biases in Thinking
  - ➢ Thought Challenging
  - ➢ Retraining Negative Thinking

Session 5 Template

Home Practice Review

How did everyone go in their goal setting this week?

Goals for the Coming Week

I'd like everyone to set at least one new goals for the next week. Like last week I'd also like you to record these goals on your "Personal Goal-Setting Form" so you can monitor your progress in achieving your goals.

If you are using the same goal each week I'd encourage you, once you've experienced some success in achieving that goal, to set an additional goal for you to work towards.

Faulty Assumptions

I'd like you to have a look at this picture. What image do you see?

Well, faulty assumptions operate in a similar way. That is, once you make an incorrect assumption you can process all of the information accurately and still end up with an inaccurate or distorted appraisal i.e. if you assume the picture is a young women you will process all of the information in the picture accordingly.

More often than not, faulty assumptions operate outside of our awareness.

From the list provided in the reading, what were you most common faulty assumptions?

How do these assumptions affect your lives?

Now I'd like each of you to make up a statement that challenges your most common faulty assumption.

Biases in Thinking

Biases in thinking are similar to filters. They lead you to end up with distorted views of situations even if you make accurate assumptions.

Again from the list in the reading, what was you most common thinking bias?

What situations are you most likely to use this bias?

Handling Changes in Mood

Would anyone like to have a go at explaining the Progress Graph?

That's right. No one ever recovers from something in a straight line. There are always ups and downs whether we are talking about physical or psychological recovery.

Mood Traps

Now I would like you to match the Mood Traps with their corresponding Key Points by drawing a line to connect each concept on the whiteboard.

Is there anything you want to clarify or discuss regarding the four mood traps?

Overcoming Negative Thinking

Remember from the readings that distortions occur outside conscious awareness and we can begin to influence them when we become aware of them. Consider the following example: '*Imagine you are an executive working at a desk. You are responsible for signing off on all plans produced by your employees before they are actioned. You read some of these documents. And when you do, you are able to catch any mistakes before they do any damage. But sometimes you are unable to read everything and so you sign off documents without reading them. As a result some truly foolish mistakes get past your desk.*

Automatic thoughts are like the papers that never get examined before they get sent out. They may be accurate or they may be filled with mistakes. If you become aware of the kinds of mistakes that you make, then you can catch them before they influence what you do or how you feel"

I would like you to think about a student who feels terrible about himself every time he receives an exam or assignment back from his lecturer. He tends to focus on everything he misses and does wrong.

Have a read of the script on the whiteboard.

What do you think would happen if the student read this script to himself before receiving the work back?

Right, he'd probably feel better about himself after becoming aware of his distorted thinking as it is difficult to take these wild leaps of logic seriously when they are presented in this manner.

Can someone explain this slide?

Thought Challenging

Would anyone like to volunteer a situation you were in that led to an emotional overreaction? Put it into the table on the whiteboard.

What emotional and behavioural responses did this situation induce?

What negative interpretations were active?

How strongly would you evaluate each thought? Out of 100.

What alternative responses can you come up with for these interpretation?

Repetition

Why is it important to repeat your alternative responses?

Right, we need to repeat it to form a new habit, one which will replace the habit of the original automatic thought.

Can you come up with a list of ways in which you can repeat automatic your alternative responses?

Its natural that initially, these responses may feel false or that you are just kidding yourselves. But with practice these new interpretations will take hold.

Challenging Model

Can someone interpret the model on this slide?

Right, so alternative responses and challenges involve catching the automatic interpretation then changing it so that an alternative interpretation is substituted. The emotional and behavioural response will then be changed based on the new interpretation.

Worrying Time

How would you explain the idea of worrying time?

Facing the Worst

I'd like you all to come up with a stressful situation then answer the questions on the slide.

It's important to recognise that our bodies react to stressful situations as if they were a matter of life or death and this is usually unnecessary.

Worrying to the End

Could someone volunteer a situation you are worried about? Describe the situation in a little detail.

I'd like you all now to escalate the worry. What's the worst you can imaging happening?

Retraining Negative Thinking

How did you find the Retraining Negative Thinking exercise?

In-session Goal Setting

What goals are being worked on for the coming week?

Explanation of Home Practice Activities

Here are the home practice activities. I will email you them again as a reminder. Also please complete the surveys as soon as you get a chance.

- Re-read Session Five Preparatory Readings
- Complete the Personal Goal Setting Form
- Read Session Six Preparatory Readings and complete associated activities:
- ➢ Your Social Census
- ➢ Deepening Your Relationships
- ➢ Starting New Friendships
- Complete the questionnaire ASAP:
  https://rmit.asia.qualtrics.com/SE/?SID=SV_3L5INSSsCDSbBUE

Session 6 Template

Home Practice Review

How did everyone go in their goal setting this week?

Goals for the Coming Week

I'd like everyone to set at least one new goals for the next week. Like last week I'd also like you to record these goals on your "Personal Goal-Setting Form" so you can monitor your progress in achieving your goals.

If you are using the same goal each week I'd encourage you, once you've experienced some success in achieving that goal, to set an additional goal for you to work towards.

Revision

This is our 7th session together including the introductory session and I think it might be a good time to have a quick review of what we've learnt so far.

Have a look at the questions on the whiteboard. I'd like to have a discussion around these questions. Would anyone like to offer any thoughts?

Topic Introduction

What thoughts come to mind when you look at the question on the whiteboard currently about social networks?

As humans, we are inherently social beings. We are designed to live in interactive groups. Although we are all capable of living in solitude, we also have social needs. When these needs are not fulfilled, emotional problems can result. The flip side of that is that when we do have emotional problems, social support can be immensely helpful.

I'd like to have a discussion now about how your social lives have been impacted by depression. Would anyone like to offer any thoughts?

Double-Edged Sword

I'd like to hear what you think about how social networks can cause or contribute to depression but also how they can assist depression. Any thoughts?

OK, so what I'm hearing is that keeping up social lives can be a significant cause of stress when people are depressed, which exacerbates depression. However, having adequate social supports speeds up our recovery from bouts of depression and helps maintain our self-esteem.

Your Social Network

This diagram represents our social networks. Each concentric circle is a different aspect of that network. You can see that you are in the middle, then we have close friends or intimates, other friends, acquaintances, and finally familiar faces.

Here we have two diagrams. The top one represents your ideal social network whilst the bottom one represents your actual social network. I'd like each of you to place your name up on the whiteboard and place the numbers of people who fit into each aspect of your social network. Do this for your ideal social network as well as your actual social network. I would also like you to answer this question in terms of your ideal situation when well because it is possible that as a result of depression you may not feel like having anyone around you much.

It's important to know that it is very common to experience a difference between the ideal number and the actual number. The problem occurs when this difference is too large.

Creating Social Changes

Now that we have identified some things to work on within your social network the remainder of the session will be spent learning how to make some changes.

We are going to focus on the three key areas highlighted by this triangle which are deepening existing relationships, reviving old friendships, and starting new friendships.

Deepening Current Friendships

Let's first look at deepening current friendships. Did each of you have a chance to do the Deeping Your Relationships exercise in the pre-reading?

Where there any aspects of that which you had particular difficulty with?

Reviving Old Friendships

Now let's have a look at reviving old friendships. Why do you think working with old friendships might be advantageous?

Using the current whiteboard screen, can you think of any barriers to reviving old friendships and any possible solutions for those barriers?

Distance

Sometime distance can be an obstacle. You might be able to bridge distances with telephone calls, emails, letters, or shared vacations. Long distance friendships should ideally not be the only social contact people have, but they should not be ignored either. They can be valid and reasonable sources of support.

Disagreements

It often happens that at the time of an argument, the importance of the issue may seem to outweigh the importance of the relationship. However, as time passes, the issue often fades in importance. Sometimes you even forget what the issue was. Maybe now the relationship seems more important.

Insecurity

It can be scary reconnecting with people you haven't seen in a long time. Calling up someone who has stopped calling us will activate a sense of insecurity in almost anyone. The question will inevitably arise; do they really want to hear from you? Well, the only way to know is to check it out and see. Is it worth the effort to find out? Perhaps ask yourself the question we discussed in a previous session, what's the worst that could happen? And is that worth the risk?

Abandonment

It's important to understand that some people drift away *not* because they are inconsiderate, but because they thought *you* weren't interested in *them!* Imagine a friend invites me to lunch. On the first occasion I say "Oh, thanks for asking, but I'm afraid I'm busy that day." A few weeks later I respond "Oh, uh, I'm sorry but I can't." And later still: "No...um...not

now." On the last two attempts they only get my answering machine and I don't return the phone calls.

What would you do if a friend responded to you in this way? What do you think I was doing in segment? I was providing an example of a person with depression (or burnout, or crisis). The point is that during depression and crisis most people give off signals that seem to say "Go away, I'm not interested." Some of the people who have drifted away may have done so because they thought you were deserting *them*. Of course this isn't always true (some people really do reject friends who have problems), but it happens extremely frequently. So the recommendation is that before you write them off as friends, contact them to see what really happened.

Insensitivity

Often people with depression can lose patience with well-meaning but uninformed friends who behave insensitively toward them. Friends might offer unhelpful advice or comments like "You just need to relax!" "Yeah, I was depressed too last Monday; it lasted about an hour...". It is common to decide that you no longer want to associate with people who can't understand what you've been through. Unfortunately, this can mean dumping almost everyone in your social network. This is generally a bad idea. The following approach can often help overcome the anger. Think back to a time before this problem started for you. Now imagine that a friend of yours tells you that she has been going through the same thing (i.e. depression, job loss, bereavement, or whatever). Would you have really understood it at that time?

I encourage you to try to have patience with the people who don't seem to understand. Perhaps you could try to educate them a bit with pamphlets or books. But recognize that they will never understand completely unless they go through it (and would you wish that on them?). *Let them* not understand completely. But make sure that you have at least one person in your life who has been through it and will really know what it's like.

How did you go with the Reviving Old Friendships exercise in the pre-reading? Any thoughts, comments, or difficulties?

Starting New Friendships

Why is it so important NOT to focus on meeting new people, but rather getting involved in interests and activities that will provide you with new contacts?

I'd like you to brainstorm some ideas about how you could meet new people.

Are there any questions about the pointers provided in the pre-readings about meeting people?

In-Session Goal Setting

What goals are being worked on for the coming week?

Explanation of Home Practice Activities

Here are the home practice activities. I will email you them again as a reminder. Also please complete the surveys as soon as you get a chance.

- Read over "Session Six Pre-Reading"
- Complete the "Personal Goal Setting Form"
- Read "Session Seven Pre-Reading" in preparation for next week's activities.
- Complete the surveys located here:

https://rmit.asia.qualtrics.com/SE/?SID=SV_erKXVARxKARRnPm

https://rmit.asia.qualtrics.com/SE/?SID=SV_0obw6QdJ3BYe2Nu

Session 7 Template

Home Practice Review

How did everyone go in their goal setting this week?

Goals for the Coming Week

I'd like everyone to set at least one new goals for the next week. Like last week I'd also like you to record these goals on your "Personal Goal-Setting Form" so you can monitor your progress in achieving your goals.

If you are using the same goal each week I'd encourage you, once you've experienced some success in achieving that goal, to set an additional goal for you to work towards.

Social Balancing

Focusing on others:

I would like you to list any behaviours that indicate you prefer attending to others. For example, deflecting questions about you, focussing more time on others, not going into detail about current problems.

What are some of the reasons you might behave like this?

How do you think this type of behaviour impacts on you and others?

Any suggestions for changing this behaviour?

Focusing on self:

What about behaviour that is focused on yourself when depressed? For example, talking at length about yourself and your problems, withdrawing from social contact, not offering assistance to others etc.

Have you come up with any reasons for this behaviour?

How do you think this type of behaviour impacts on you and others?

Any suggestions for changing this behaviour?

I would like you to set some goals related to creating more of a social balance. How might you go about achieving these goals?

Assertive Communication

Let's now have a look at assertive communication. In the Assertiveness Exercise in your pre-reading, which column did you tick the most – passive, aggressive, or assertiveness?

The main point to take from that is that being assertive doesn't mean getting your own way the whole time and changing others, rather it is about being in charge of your own behaviour and letting others be in charge of theirs.

Why do you think assertiveness is a good idea?

- Setting your own boundaries places control in your hands
- It involves taking charge of yourself and your actions
- It allows you to choose your own actions

Assertiveness Skills in Practice

When completing the Assertiveness Skills in Practice exercise in the pre-reading, which skills did you find the hardest?

- Use body language effectively
- Find out what is really going on
- Be honest about your opinion
- Express how you feel
- Be clear about what you want
- Find out what others want from you
- Don't try to win

The Assertiveness Pitfall

Would anyone like to explain this graph?

That's right, the point is that as you initially become more assertive others may make more demands on you or act worse but as others learn that you will not budge their behaviours will lessen.

Guidelines for Setting Boundaries

- *Only set barriers you can and will defend*- if the person pushing you knows you are bluffing they will push harder and get you to back down.
- *Don't start to get assertive when you are strained to the limit*-Things will get worse before they get better. If you are not in a position to handle the extra pressure wait until you are before getting assertive.
- *Don't back down*- If people learn that you will back down when pushed they will only push harder and become more obnoxious.
- *Don't get assertive with everybody all at once*- It is hard enough to handle one person getting obnoxious, let alone a few all at once.

Assertiveness in Action

What did each of you discover after completing the Assertiveness in Action exercise?

Would anyone like to volunteer what strategies you came up with to become more assertive?

Would anyone like to volunteer a situation you have identified in which you would like to become more assertive?

Can anyone think of any ways to make this possible?

Explanation of Home Practice Activities

Here are the home practice activities. I will email you them again as a reminder. Also please complete the surveys as soon as you get a chance.

- Read over "Session Seven Pre-Reading"
- Complete the "Personal Goal Setting Form"
- Read "Session Eight Pre-Reading" in preparation for next week's activities.

Session 8 Template

Home Practice Review

How did everyone go in their goal setting this week?

Goals for the Coming Week

I'd like everyone to set at least one new goals for the next week. Like last week I'd also like you to record these goals on your "Personal Goal-Setting Form" so you can monitor your progress in achieving your goals.

If you are using the same goal each week I'd encourage you, once you've experienced some success in achieving that goal, to set an additional goal for you to work towards.

Course Review

So we have come to the final session for MoodGroup. We have covered a lot in 9 weeks. I am interested to know what you found most useful.

Is there anything you would like more clarification on? Or something we've covered that you are still struggling with?

Preventing Future Difficulties – Why we stop taking care of ourselves

I would like to have a discussion now about the reasons why people fail to take care of themselves and slip back into old habits. Does anyone have any thoughts on that?

Important points:

- People may feel like they deserve a break for working so hard on themselves but their break is feeling better, which won't continue if they stop working on themselves.
- People may feel that they are no longer depressed and feel "good enough". They are less motivated to work on themselves as their pain is no longer the primary motivator.

- People may feel that their depression was such a nightmare that they want to forget all about it. As self-care strategies are part of that depressive period they want to negate those too.

Reasons To Manage Life When Feeling Well

Can you give me any reasons why it is important to manage your lifestyle once you are no longer feeling depressed?

Preventing Depression from Returning

I would like you now to create a list of life events that may cause additional stress. These can be positive or negative. Remember sometimes joyful events can be stressful.

Can you suggest any reasons as to why these life events may bring about a recurrence of depression?

That's right, major life events require adjustment and adjustment or difficulty adjusting can cause stress.

From your readings, what can you tell me about these points on the whiteboard currently?

Can you provide an example of a stressful situation in your own life and a stress management strategy you might be able to apply to help you?

Can you think of any likely periods of a few weeks or more where you will encounter great stress? What will the likely cause of the stress be? When is it likely to come?

Ok, do you think you could formulate a coping plan for this stress?

The Sign in the Road

Is there a particular behaviour, situation or pattern that has contributed to your depression in the past?

We will call this the OLD ROAD. Although you might not like it, it's familiar and it is normal to find yourself wanting to travel it again. It is important to remember that what lies

on that road is depression and that is where you will end up or remain if you continue to travel down it.

If you are about to travel down that road, what signs might you notice that indicate you are going down that road?

When you notice those signs, make a big stop sign. The stop sign is a message to tell yourself when you notice that you are going down the old road. What will your stop sign be?

So instead of going down the old road, what will you do instead?

The Mood Emergency Action Plan

Let's talk about Mood Emergency Action Plans. Why do you think it is important to have a mood emergency action plan?

Look at the strategies on the whiteboard. Can you give me any examples of these types of strategies?

Having a plan of what to do when you notice your mood getting low again is important but sometimes when you feel low it can be difficult to remember all of the things on your plan. So I encourage you to make up a list that details each of your strategies and store it in a safe place for you to access it when you need to. Also, it is a great idea to give a copy of your plan to a trusted loved one so that they could remind you of the things you could do to help prevent traveling down the old road.

Saying Thank You

Name on the whiteboard with positive comments from the other participants.

Saying Farewell

Well we've come to the end of the final session. I would like to take the opportunity to say how much I have enjoyed facilitating the group. Your participation has been much appreciated and I sincerely hope that you have gained something from the experience. I wish you all the best in the future.

I will send through the links to the questionnaires. For our evaluation of the program it is really important that you complete them. I know you have been informed of this already but just to remind you that you will be emailed in 1, 3, and 6 months with similar questionnaires to check on your progress.

Thanks again for being a part of MoodGroup.

Appendix D: MoodGroup Session Presentations

Introductory Session

CONFIDENTIALITY

It is important to remember that with MoodGroup your fellow group members are not facilitators. They are therefore not bound by the same ethical codes to keep confidential the information shared in group sessions.

The following guidelines have been made in an effort to protect confidentiality:

- Only first names will be used.
- You are expected to keep private any information disclosed by other group members during group sessions.
- You are however welcome to share with others what you are learning in MoodGroup and how you are applying it to your own life
- Any group member who is found to have violated other members' confidentiality will not be allowed to continue with the program.

GOALS OF MOODGROUP:

The main goals of this program are:

1. To provide you with information and skills that will assist you to manage your depression.
2. To help you to apply this knowledge in your own life.

Please note: In order for this program to be maximally beneficial to you it is vital that you make it a high priority in your life.

ATTENDANCE

- Sessions will begin at on time. Please allow yourself enough time to log-in so that you do not miss anything. We recommend that you get your computer set-up 15 minutes before the session is due to start.
- You are expected to attend all sessions as each class builds upon the previous one.
- If you absolutely cannot attend a session we request that you let your facilitator know as soon as possible.
- MoodGroup sessions cannot be re-scheduled if you are absent, so please make every effort to attend.
- You may not attend a session if you are under the influence of alcohol or drugs.

FORMAT

- The group will consist of a maximum of 8 members
- Sessions will take place every (insert day) between (insert time)
- The program consists of one session per week for **8** further weeks. The first session will be on (insert date) and the final session will be on (insert date)
- Groups will run for 120 minutes at a time
- Preparation: Each week you will be provided with reading material or pre-readings. It is important for you to read this material before attending the group session for that week.
- Group discussions will focus mainly on problem-solving, constructive ideas, and clarifying the course material.
- Home Practice: You will be assigned tasks to practice at home after every session. These tasks will be reviewed at the start of the next session.
- Your facilitator's task is to present the material as clearly as possible and to help everyone learn.
- Please feel free to ask questions and make suggestions.

PARTICIPATION

- We aim to create a positive and supportive group environment at all times.
- When contributing to group discussions, be supportive and provide constructive feedback.
- Avoid harsh criticisms or judgments.
- Help others to work towards solutions
- Give everyone an equal chance to contribute.
- Be prepared to set small goals for yourself each week.

HOME PRACTICE

- Although attending is important, simply attending won't help. It will be important for you to work on the material between sessions as well.
- We request that you read over the materials before each week's session
- Complete the assigned exercises
- Carry out the home practice assignments you set for yourself.
- It can be overwhelming to attempt the reading and exercises all at once. We therefore recommend that you set aside 20 to 30 minutes each day to devote to your home practice.
- You will not be asked to show other group members your written exercises.
- You will however be asked to share your progress and experiences with the material.
- If there are issues that you do not feel comfortable discussing in the group, you will not be asked to do so.

PARTICIPATION BARRIERS AND SOLUTIONS

Barrier	Solutions
	• •
	• •
	• •
	• •
	• •
	• •
	• •
	• •

INDIVIDUAL WISHES AND HOPES

Name	Wish and/or Hope

EXPECTATIONS

Participant	Expectation

QUESTIONNAIRES

Please complete the questionnaires which are located here:
https://rmit.asia.qualtrics.com/SE/?SID=SV_9SSQiYEhullPuCg

https://rmit.asia.qualtrics.com/SE/?SID=SV_0PV6pMdQPhA2vYw

Your facilitator will remain in here for another hour should you wish to discuss the questionnaires or ask any further questions.

Congratulations on completing the introductory sessions of MoodGroup!

Session One

What you do

ACTIONS

CBT TRIANGLE

THOUGHTS

FEELINGS

What you think about

How you feel

EXAMPLE: RECENT JOB LOSS

What you do

Less activity during day

ACTIONS

Little motivation to look for a new job

CBT TRIANGLE

I won't find another job

Discouraged and unmotivated

THOUGHTS

FEELINGS

What you think about

How you feel

EXAMPLE SITUATION:

What you do

ACTIONS

CBT TRIANGLE

THOUGHTS

FEELINGS

What you think about

How you feel
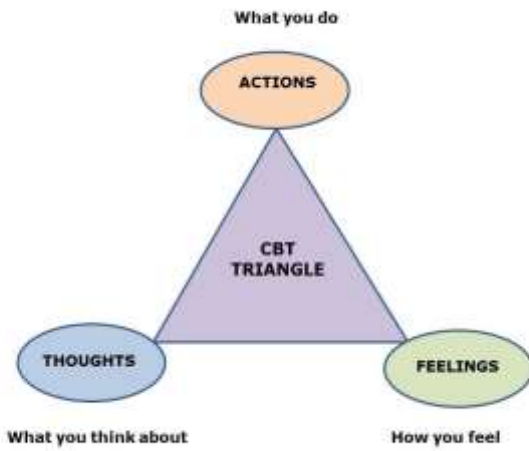
BREAK OUT ROOM EXAMPLE SITUATION:

What you do

ACTIONS

CBT TRIANGLE

THOUGHTS

FEELINGS

What you think about

How you feel

WHAT SIDE GIVES YOU THE MOST TROUBLE?

What you do

ACTIONS

CBT TRIANGLE

THOUGHTS

FEELINGS

What you think about

How you feel
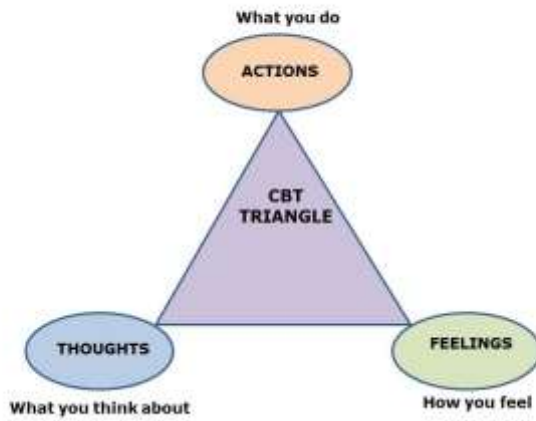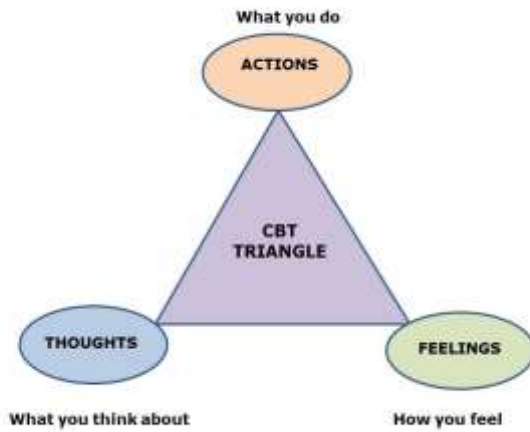
WHAT SIDE WOULD BE EASIEST TO CHANGE?

ACTIONS

CBT TRIANGLE

THOUGHTS

FEELINGS

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ACTIONS & THOUGHTS >
FEELINGS

Why is it harder to change our feelings than our actions and thoughts?

THE RIVER OF ACCEPTANCE

Excitement

Sadness

Contentment

Guilt

Happiness

Anger

Shame

Fear   Joy

WAYS TO MAKE YOURSELF FEEL WORSE

GETTING BETTER

FEELINGS

OPPOSING
NEGATIVE
TENDENCIES

THOUGHTS

ACTIONS

Listing your failures ⟶ ADD YOUR SUCCESSES!

Sit in the dark ⟶ OPEN THE CURTAINS!
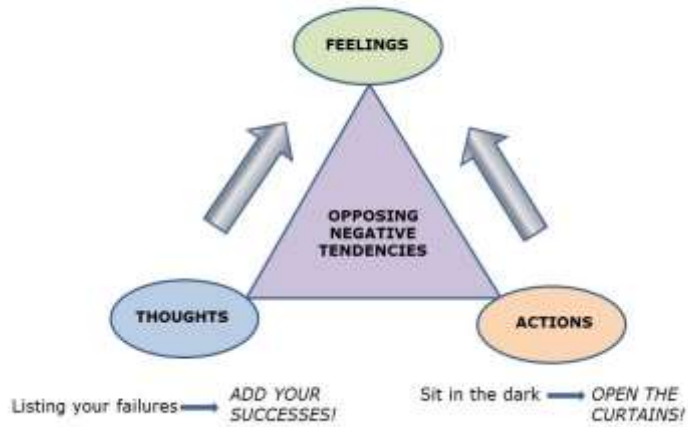
WAYS TO MAKE YOURSELF FEEL BETTER

Negative thought/feeling /action

Opposite thought/feeling /action

ESTIMATING THE DIFFICULTY OF TAKING ACTION

ESTIMATED DIFFICULTY

ACTUAL DIFFICULTY

BREAK OUT ROOM: OVERCOMING STUCKNESS

DEFYING STUCKNESS
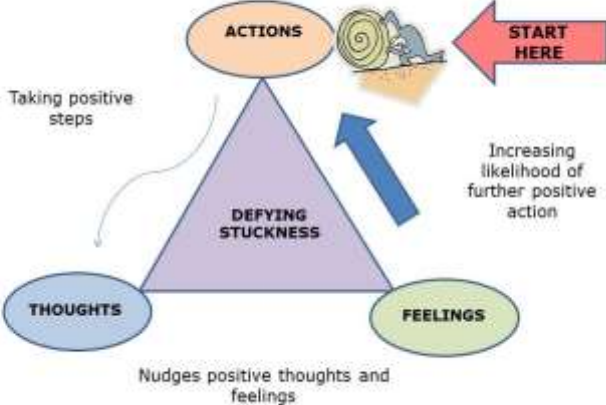
EXPECTATION VS MOTIVATION
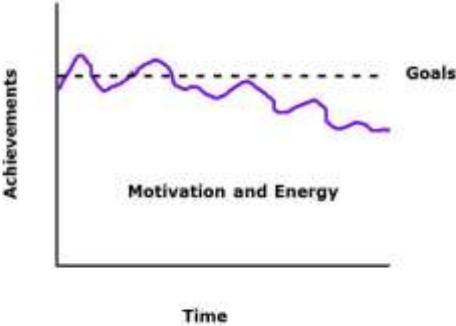
ADJUSTED GOALS
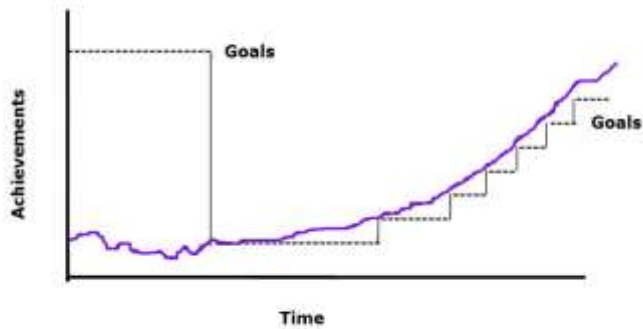
NEXT WEEK'S TASKS

1. Re-read the notes from this week

2. Read "Session Three Preparatory Reading"

3. Complete all activities as listed

4. Please complete this survey ASAP:
   https://rmit.asia.qualtrics.com/SE/?SID=SV_81AirMf0AX5y0RK

PLEASE NOTE: There is quite a bit of content to cover for next week and it may take some time to complete it. Please allow yourself at least 20 minutes a day so you can do it in a comprehensive manner.

Session Two

Break Out Room 1: Immediate Goals

Break Out Room 2: Ultimate goals

Problem I Picked

Ultimate Goal

Problem Bits and Pieces

The Problem:

        Bits and Pieces   **Possible Solutions**

Break Out Rooms: Immediate Goal: Is it SMART

Specific

My own

Achievable

Realistic

Time-defined

SMART Goals for the Week

- **S**pecific

- **M**y own

- **A**chievable

- **R**ealistic

- **T**ime-defined

Tips for Immediate Goals
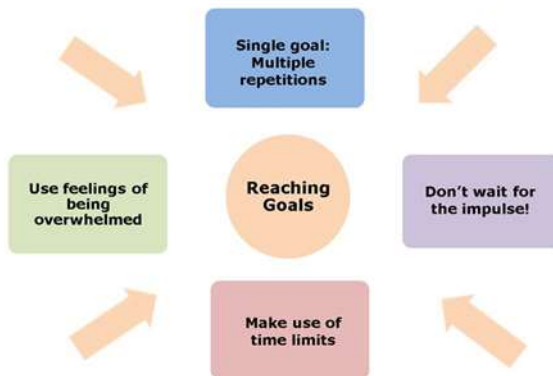
Common Pitfalls

Home Practice Activities

- Re-read Session 2 Preparatory Readings

- Complete the **Personal Goal Setting Form**

- Read Session 3 Preparatory Readings and complete all associated activities.

- Complete the "Building Enjoyment into Your Life" exercise.

- Please complete these questionnaires immediately:
- https://rmit.asia.qualtrics.com/SE/?SID=SV_8DfWKsyGS0eXUHy
- https://rmit.asia.qualtrics.com/SE/?SID=SV_9Ldh8dkVHrbYU5K

Session Three

Break Out Rooms: Goal Setting Review

Goal Setting for this Week:

WHAT IS STRESS?

STRESSOR (EVENT)   STRESS RESPONSE
(CHANGES TO A PERSON)

STRESSOR   STRESS RESPONSE

I THINK IT'S STRESS!!

And you thought
there was stress
in *your* life !

Images courtesy of http://www.wolfescape.com/Humour/WorkStress.htm

STRESS ANALOGY

Image courtesy of http://bgosur.com/wp-
content/uploads/2009/01/sneeze-cartoon-280x300.jpg

Image courtesy of http://www.thecausewayretreat.com/blog/wp-
content/uploads/2009/06/fight-or-flight-response.jpg
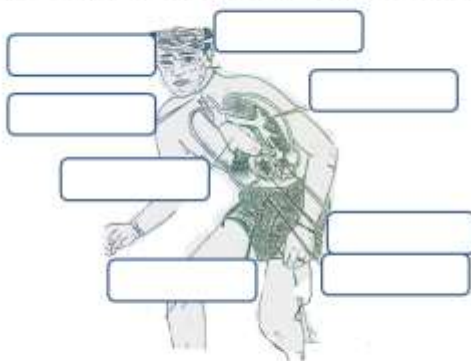
FIGHT OR FLIGHT BODILY RESPONSE

Image courtesy of
http://www.murphysedinburgh.com/AA%20Front%20Page/Responses%
20of%20fight%20and%20flight.jpg

FIGHT OR FLIGHT BODILY RESPONSE

Pupils dilate

Brain prepares for fight or flight

Mouth goes dry

Breathing quickens

Heart beats faster

Digestion stops

Knees weaken

Energy is produced

Image courtesy of
http://www.murphysedinburgh.com/AA%20Front%20Page/Responses%
20of%20fight%20and%20flight.jpg
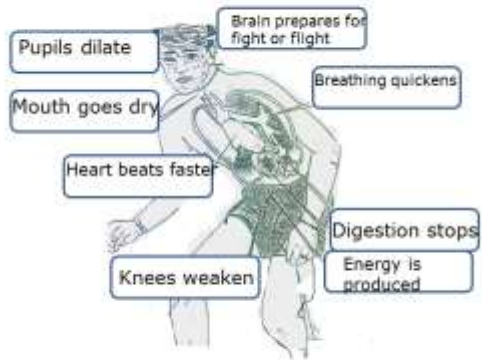
Our Stressor's Today

MODEL OF STRESS
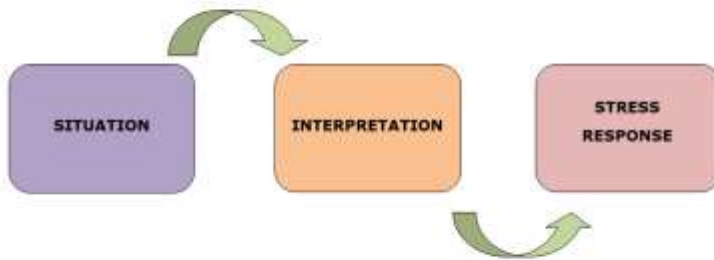
THE SUSTAINING LIFESTYLE

BREAK OUT ROOMS:DIET

WHAT I HAVE LEARNT   **CHANGES I WILL MAKE**

BREAK OUT ROOMS: PHYSICAL ACTIVITY

WHAT I HAVE LEARNT   **CHANGES I WILL MAKE**

"What fits your busy schedule better, exercising one hour a day or being dead 24 hours a day?"

BREAK OUT ROOMS: SLEEP

WHAT I HAVE LEARNT   **CHANGES I WILL MAKE**

BREAK OUT ROOMS: CAFFEINE, DRUGS AND ALCOHOL

WHAT I HAVE LEARNT   **CHANGES I WILL MAKE**

"I can't drink alcohol on my low-carb diet. I'll just have a couple shots of gravy with a twist of bacon."

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BUILDING ENJOYMENT INTO YOUR LIFE

Image courtesy of
http://www.freefunnypixs.com/images/media/2/cid_000b01c6c927bcb713
603BAB8CEEyourat5qgaac3z.jpg

GOALS FOR THIS WEEK

HOME PRACTICE ACTIVITIES

- Re-read Session Three Preparatory Readings

- Complete a Personal Goal Setting Form for this week

- Read Session Four Preparatory Readings and complete all associated activities.

  - Checking Your Interpretations
  - Monitoring Automatic Thoughts

- Please complete this questionnaire ASAP:
- https://rmit.asia.qualtrics.com/SE/?SID=SV_ey8At5oCt5F6a7q

Session Four

Break Out Rooms: Goal Setting Review

Goal Setting for this Week:

What you do

ACTIONS

CBT
TRIANGLE

THOUGHTS   FEELINGS

What you think about   How you feel

SITUATION

RESPONSE

ACTIONS   FEELINGS
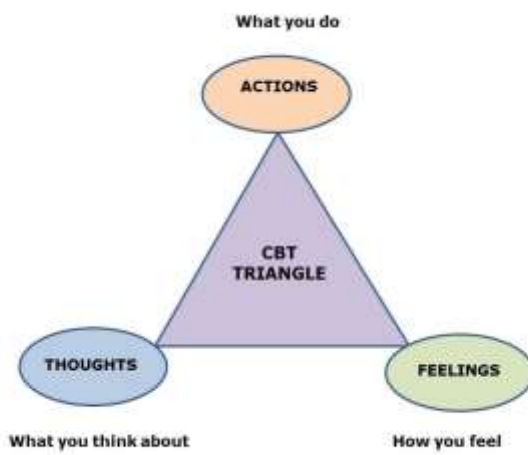
SITUATION

↓

THOUGHT

↓

RESPONSE

SITUATION:
BEAR OUTSIDE TENT

THOUGHTS   ACTIONS

SITUATION:
PERSON UNAWARE THAT BEAR IS OUTSIDE TENT

THOUGHTS   ACTIONS
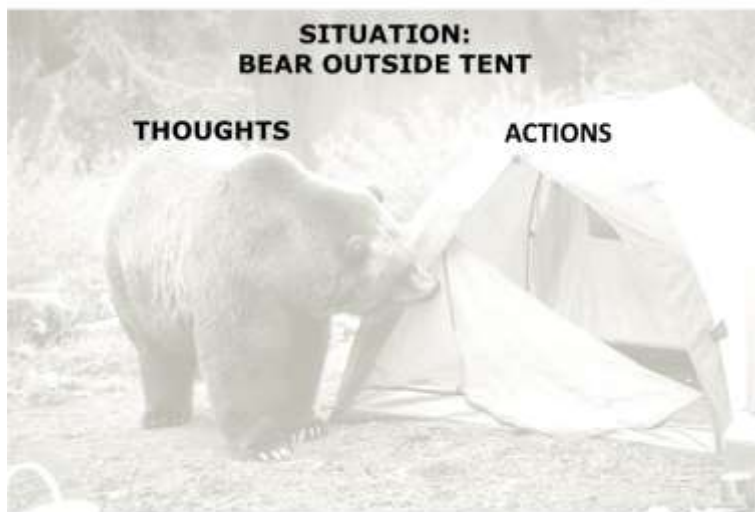
SITUATION:
THINKING A THUG IS BEHIND YOU

THOUGHTS   **RESPONSES**

SITUATION:
THINKING YOUR PARTNER IS BEHIND YOU

THOUGHTS   **RESPONSES**

"People are disturbed not by things, but by
the views which they take of them"

Epictetus, 2th century AD

AUTOMATIC DISTORTED RULES

- Everything I do must be perfect or otherwise I am useless

- I am the most socially awkward person on Earth

- Other people are cold and rejecting

SITUATION, INTERPRETATION, REPSONSE

SITUATION	INTERPRETATION	RESPONSE
Friend cancels coffee catch-up		

SITUATION, INTERPRETATION, REPSONSE

SITUATION	INTERPRETATION	RESPONSE
Friend cancels coffee catch-up due to work emergency		

BREAK OUT ROOMS: CHECKING INTERPRETATIONS

DISCOURAGING EVENT	INTERPRETATION	RESULTING FEELINGS AND RESPONSE	ALTERNATIVE INTERPRETATION

MONITORING AUTOMATIC THOUGHTS

PUTTING YOUSELF DOWN

PUT DOWN   HELPFUL SLOGAN

"It might help Skippy's feelings if you said he
needed improvement instead of calling him
a bad dog."

Cartoon courtesy of cartoonstock.com

Home Practice Activities:

- Complete the Evaluation Questionnaires

- Re-read Session Four Preparatory Readings

- Complete the Personal Goal Setting Form

- Read Session Five Preparatory Readings and complete associated activities:
  - Identifying Faulty Assumptions
  - Catching Faulty Assumptions
  - Identifying Biases in Thinking
  - Catching Biases in Thinking
  - Thought Challenging
  - Retraining Negative Thinking

Mid-Point Questionnaires

Please complete the questionnaires which are located here:
- https://rmit.asia.qualtrics.com/SE/?SID=SV_3rXMUeAex2rsP9G
- https://rmit.asia.qualtrics.com/SE/?SID=SV_71HIJMoTAd0nmeg

Your facilitator will remain in here for another hour should you wish to discuss the questionnaires or ask any further questions.

Congratulations on completing the first half of MoodGroup!

Break Out Rooms: Goal Review

FAULTY ASSUMPTIONS

Image courtesy of:
http://www.wordsculptures.com/illusions.htm

BREAK OUT ROOMS: FAULTY ASSUMPTIONS

- Everything I do must be absolutely perfect or I am a failure
- I must always be at peak efficiency and performance
- Life is fair
- If others disagree with me I must be wrong
- I am only worthwhile as long as I am doing something for someone else
- The way to be accepted and appreciated by others is to give and give
- Anger is bad
- Being healthy will mean not having strong emotions
- I have to do everything I am asked to do
- I have the power to change people
- Good relationships have no problems
- It is unbearable when life is not the way I like it to be
- It is easier to avoid life's problems than to face them
- I need someone stronger or more powerful than myself to rely on
- I need other people to be supportive of me

COMMON FAULTY ASSUMPTIONS

MY ASSUMPTION **MY COUNTER BELIEF**

BIASES IN THINKING

BREAK OUT ROOMS: THINKING BIASES

- All-Or-Nothing Thinking
- Filtering
- Underfocusing
- Overgeneralisation
- Disqualifying the Positive
- Mindreading
- The Fortune-Teller Error
- Magnification and Minimisation
- Catastrophising
- Emotional Reasoning
- Labelling

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BIASES IN THINKING

MY THINKING BIAS   **MY REMINDER**

PROGRESS GRAPH

Mood

Time
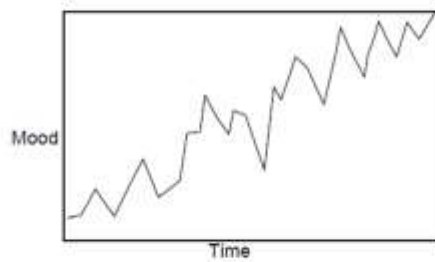
MOOD TRAPS

MOOD TRAP	KEY POINT
Catastrophising	Leash your enthusiasm
Theories upon theories	Meet mood setbacks with acceptance and activity
Mood checking	During mood setbacks, leave the past alone
Enthusiasm	If your depression isn't there, don't go looking for it

SIMPLE AWARENESS

Now I am going to watch as I pay close attention to all the mistakes I made. I am going to focus on these and ignore everything I did correctly. I will treat every missed question as an inexcusable failure, and I will ignore the class average or passing grade. I am going to listen as I tell myself what an incompetent student I am, and how I deserve to be thrown out of university.

SITUATION

INTERPRETATION

AWARENESS   AWARENESS

RESPONSE

SITUATION:		
EMOTIONS		
BEHAVIOURAL RESPONSE:		
AUTOMATIC THOUGHTS	BELIEF STRENGTH	ALTERNATE RESPONSE

Tips for Alternate Responses
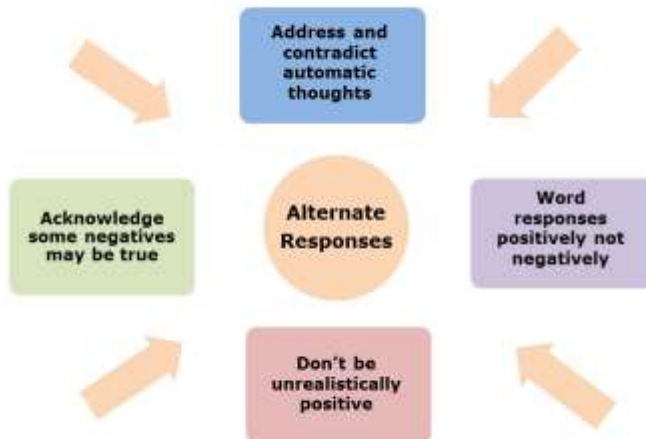
Break Out Rooms: Repeating Alternate Responses

STRATEGIES FOR REPETITION

SITUATION

CHALLENGE

ALTERNATE
RESPONSE

INTERPRETATION

RESPONSE

WORRYING TIME

FACING THE WORST

What is the worst
that could
happen?

Could I
survive that?

BREAK OUT ROOMS: FACING THE WORST

What is the worst
that could
happen?

Could I
survive that?

BREAK OUT ROOMS: WORRY ESCALATION

WORRY TO THE END

RETRAINING NEGATIVE THINKING

Home Practice Activities:

- Re-read Session Five Preparatory Readings

- Complete the Personal Goal Setting Form

- Read Session Six Preparatory Readings and complete associated activities:
  - Your Social Census
  - Deepening Your Relationships
  - Starting New Friendships

- Complete the questionnaire ASAP:
  https://rmit.asia.qualtrics.com/SE/?SID=SV_3L5INSSsCDSbBUE

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Break Out Rooms: Goal Review

REVISION

- What have you learnt so far from the group?
- What have you found most useful?
- What concepts would you like further clarification on?

SOCIAL NETWORKS

How many people here are completely satisfied with
their social lives – including the amount of
socialising you do, the support you get from
others, your own ability to enjoy social contact,
and your level of assertiveness?

Break Out Rooms: Impact of depression on social life

HOW DEPRESSION HAS IMPACTED ME SOCIALLY

THE DOUBLE-EDGED SOCIAL SWORD

OUR SOCIAL NETWORK

- You
- Close friends, intimates
- Other friends
- Acquaintances
- Familiar faces

IDEAL NETWORK

ACTUAL NETWORK

BREAK OUT ROOMS: IDEAL NETWORK

Name	Close Friends	Other Friends	Acquaintances	Familiar Faces

ACTUAL NETWORK

Name	Close Friends	Other Friends	Acquaintances	Familiar Faces

SESSION FOCUS

Examining and building your social network

Becoming more assertive

Social Issues

Creating a support group

Recent changes in your interpersonal style

Starting new friendships

Reviving old friendships

Deepening existing relationships

DEEPENING CURRENT RELATIONSHIPS

Prioritise

Open up

Regularity

Keep a wide focus

Allow closeness

Combine activities

Intimacy with vulnerability

No bumping

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REVIVING OLD FRIENDSHIPS: ADVANTAGES

REVIVING OLD FRIENDSHIPS

BARRIERS: **SOLUTIONS:**

STARTING NEW FRIENDSHIPS

To meet new people, pursue another interest that will place you into contact with others.

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IDEAS TO MEET NEW PEOPLE

Take an active role. Don't wait for others to introduce themselves or break the ice. Mingle at parties and events. Have a few things in mind that you could talk about.

Consider your safety. Women on their own may need to take special care. Is this a setting that is safe for you to talk to strangers? Are there other people nearby?

Be yourself. You don't have to hide your true nature or be unusually clever or charming. Remind yourself that people respond better to warmth and genuineness than to attempts to impress.

Limit your expectations. Your goal should be to talk with a new person, not to find a soul-mate. Most of the people you meet will not become close friends, so avoid hoping for too much.

Build your confidence. Remind yourself that you are in control of the situation. If you don't like what is happening, you can always end the conversation.

Ask questions. People who ask about the other person are often felt to be the best conversationalists. It's also much easier than carrying the conversation all on your own.

Permit awkwardness. Meeting new people is often difficult. Accept this and try not to put yourself down if you stumble. Everyone looks awkward occasionally.

Reward yourself. Once you have spoken to someone new, remind yourself that you have just accomplished something that is difficult for most people. Be nice to yourself.

Home Practice Activities:

- Re-read Session Six Preparatory Readings

- Complete the Personal Goal Setting Form

- Read Session Seven Preparatory Readings and complete associated activities:
  - Creating a Support Team
  - Assertiveness Skills in Practice
  - Assertiveness in Action

- Complete these questionnaires ASAP:
- https://rmit.asia.qualtrics.com/SE/?SID=SV_erKXVARxKARRnPm
- https://rmit.asia.qualtrics.com/SE/?SID=SV_0obw6QdJ3BYe2Nu

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Break Out Rooms: Goal Review

SOCIAL BALANCING

Focus on self

Attending to others

ATTENDING TO OTHERS

BEHAVIOURS   **REASONS**

EFFECTS   **CHANGES**

FOCUSSING ON SELF

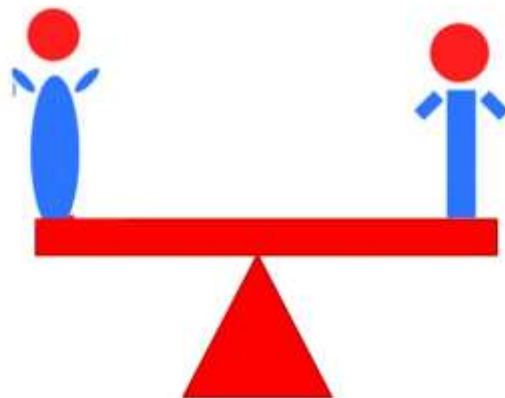**BEHAVIOURS**   **REASONS**

EFFECTS   **CHANGES**

CREATING BALANCE

ASSESRTIVE COMMUNICATION

"I was raised to be 'nice.' Which is fine, I guess,
except that 'nice' meant never saying
what you wanted, never saying 'no,' and never
having an opinion different from anyone
else. I thought the only way to be assertive was
to yell and get red in the face. It took a
while to learn that I could be honest, be myself,
and still be considered 'nice.'"

Break Out Rooms:
Assertiveness Exercise

|	Passive	Aggressive	Assertive
Actions	Keep quiet. Don't say what you feel, need, or want. Put yourself down frequently. Apologize when you express yourself. Deny that you disagree with others or feel differently.	Express your feelings and wants as though any other view is unreasonable or stupid. Dismiss, ignore, or insult the needs, wants, and opinions of others.	Express your needs, wants, and feelings directly and honestly. Don't assume you are correct or that everyone will feel the same way. Allow others to hold other views without dismissing them.
Posture	Make yourself small. Look down, hunch your shoulders, avoid eye contact.	Make yourself large and threatening. Eye contact is fixed and penetrating.	Body is relaxed, movements are casual. Eye contact is frequent but not glaring.
Attitude	Others' needs are more important than yours. They have rights, you don't. Their contributions are valuable. Yours are worthless.	Your needs are more important and more justified than theirs. You have rights, they don't. Your contributions are valuable. Theirs are silly, wrong, or worthless.	Your needs and theirs are equally important. You have equal rights to express yourselves. You both have something valuable to contribute.
Feelings	Fear of being rejected. Helpless, frustrated, and angry. Resentful toward others who 'use' you. Your self-respect may suffer.	Angry or powerful at the time and victorious when you win. Afterwards remorse, guilt, or self-hatred for hurting others.	You feel positive about yourself and the way you treat others. Self-esteem rises.
Goal	Avoid conflict. Please others at any expense to yourself. Give others control over you.	Win at any expense to others. Get control over them.	Both you and others keep your self-respect. Express yourself without having to 'win' all the time. No one controls anyone else.

ASSERTVIENESS:
KEY POINTS

- Its what you do not who you are
- Control your behaviour not the behaviour of others
- Start easy
- Ask for time
- Assertiveness = openness
- You don't have to be assertive 24/7

BREAK OUT ROOMS: ASSERTIVENESS SKILLS
IN PRACTICE

- Use body language effectively
- Find out what's really going on
- Be honest about your opinion
- Express how you feel
- Be clear about what you want
- Find out what others want from you
- Don't try to win

BODY LANGUAGE
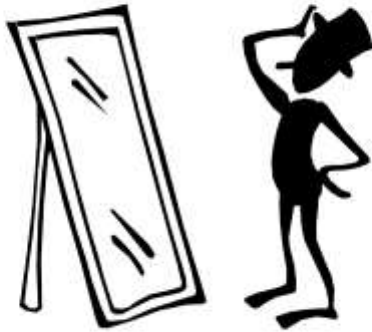
FIND OUT WHAT IS REALLY GOING ON

MY PERSPECIVE   **YOUR PERSPECTIVE**

BE HONEST ABOUT YOUR EXPERIENCE

EXPRESS HOW YOU FEEL

When (*insert situation*)

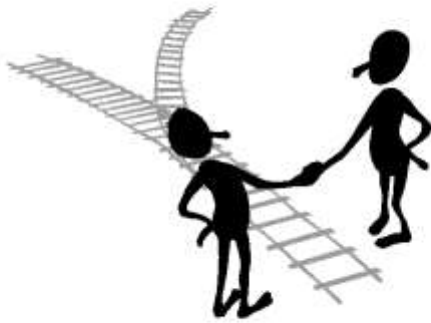**I feel (*insert emotion*)**

**FIND OUT WHAT OTHERS WANT
FROM YOU**

**BE CLEAR ABOUT WHAT YOU
WANT**

DON'T TRY TO WIN

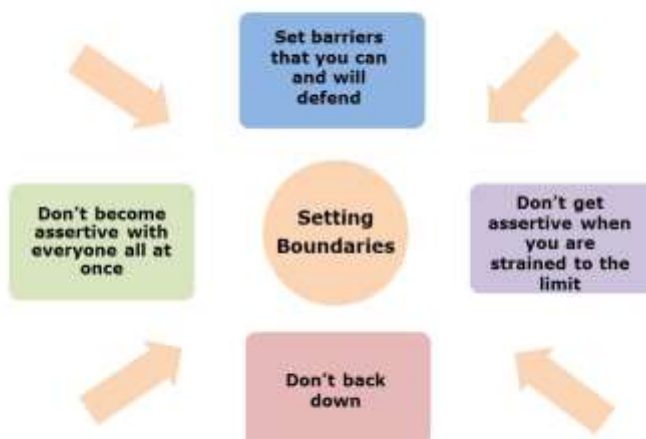# THE ASSERTIVENESS PITFALL
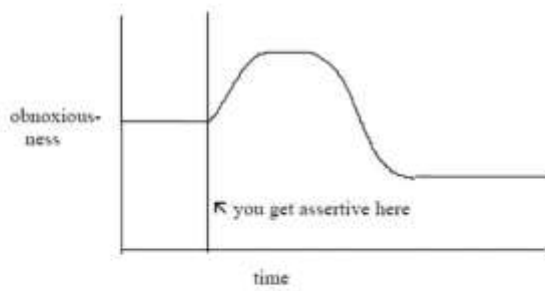
BOUNDARY SETTING GUIDELINES

Set barriers that you can and will defend

Don't become assertive with everyone all at once

Setting Boundaries

Don't get assertive when you are strained to the limit

Don't back down

ASSERTIVENESS IN ACTION

SITUATION:

What did you do?

Was it passive, aggressive or assertive?

Alternate assertive response?

Home Practice Activities:

- Re-read Session Seven Preparatory Readings

- Complete the Personal Goal Setting Form

- Read Session Eight Preparatory Readings and complete associated activities:
  - The Stress Plan
  - Signs in the Road
  - Course Review

- Complete the questionnaire ASAP:
- https://rmit.asia.qualtrics.com/SE/?SID=SV_9moLtRKAmAzH6Ju

Session Eight

Break Out Rooms: Goal Review:

COURSE REVIEW

COURSE OUTLINE

MODULE	DETAILS
Introduction	Introductory exercises
	Class routines and expectations
	Course review
The Triangle and Goal-Setting	Thoughts, actions, feelings: The triangle
	Setting attainable goals
Stress, Depression and Lifestyle	The nature of stress
	The nature of depression
	The sustaining lifestyle
Thinking about Thinking	Introduction
	Styles of distorted thinking
	Handling changes in mood
	Overcoming negative thinking
The Role of Your Social Life	Your social network
	Creating a support team
	Social balancing
	Assertive Communication
The Road Ahead	Plan ahead for stress
	The sign in the road
	The mood emergency action plan
	Course review
Conclusion	Celebration and graduation ceremony

EXPECTATIONS
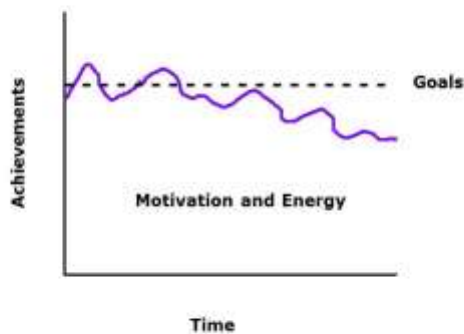
Know and accept that progress is gradual and that the desire to rush is often part of the problem.

GOAL-SETTING

Setting Ultimate Goals, breaking them down into Immediate
Goals and achieving the Immediate Goals

UNDERSTANDING STRESS

STRESSOR

STRESS RESPONSE

And you thought
there was stress
in *your* life !

Images courtesy of http://www.wolfescape.com/Humour/WorkStress.htm

Knowing what your stressors are and how to reduce the impact of
the stress response onto your life.

THE SUSTAINING LIFESTLYE

Diet, physical activity, sleep, caffeine, drugs and alcohol

MAKING TIME FOR FUN

It's going to take me a little longer to answer my e-mails now....

Image courtesy of
http://www.freefunnypixs.com/images/media/2/cid_000b01c6c927bcb713
603BAB8CEEyourat5qgaac3z.jpg

Building enjoyable activities into your everyday life

FAULTY ASSUMPTIONS

Image courtesy of:
http://www.wordsculptures.com/illusions.htm

Recognising your most common unrealistic belief, and catching them when they occur

BIASES IN THINKING

Recognising and catching your most common ways of distorted thinking

CHALLENGING NEGATIVE THOUGHTS

SITUATION:		
EMOTIONS:		
BEHAVIOURAL RESPONSE:		
AUTOMATIC THOUGHTS	BELIEF STRENGTH	ALTERNATE RESPONSE

Challenging unrealistic negative thoughts and replacing
them with more fair and realistic ones

STOPPING OR CHANGING WORRY

WORRYING TIME

FACING THE WORST

What is the worst that could happen?

Could I survive that?

WORRY TO THE END

Using worry control strategies to increase confidence and
restore calm

OUR SOCIAL NETWORK

You

Close friends, intimates

Other friends

Acquaintances

Familiar faces

Recognising social contact as a basic need and taking steps
to increase your social network and support team

ASSERTVIENESS

Its what you
do not who
you are

You don't have
to be assertive
24/7

Control your
behaviour not
the behaviour
of others

Assertiveness =
openness

Start easy

Ask for time

Respecting and standing up for your rights as much as you do
for the rights of others

WHY WE STOP TAKING CARE OF OURSELVES

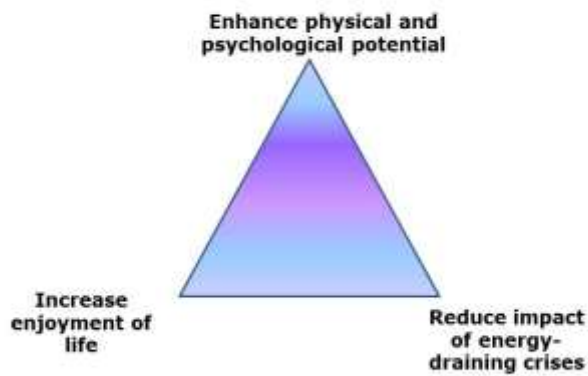Need for a break

Feeling good enough

STOP

Being reminded of the past

THE STRESS PLAN

Introduce
the new
stress
gradually

Relax some of
your standards

Managing
New
Stresses

Reduce
existing
responsibilities

Keep up your
self-care

Identifying upcoming stressful situations and creating a
plan for coping in advance

MANAGING LIFE WHEN FEELING WELL

Enhance physical and psychological potential

Increase enjoyment of life

Reduce impact of energy-draining crises

THE SIGN IN THE ROAD

- **Lifestyle aspect that contributes to depression**
- **Sign to indicate you are returning to that pattern**
- **What will you tell yourself?**
- **What will you do instead?**

Identifying aspects of your former lifestyle that contributed to the problem, and making a plan for relapses

STRESS-INDUCING LIFE EVENTS

PLANNING AHEAD FOR STRESS

- MAJOR LIFE EVENT

- ADJUSTMENT REQUIRED

- ADDITIONAL STRESS

PLANNING FOR STRESS

Introduce the new stress gradually

Managing New Stresses

Reduce existing responsibilities

Relax some of your standards

Keep up your self-care

BREAK OUT ROOMS: THE STRESS PLAN

STRESSFUL SITUATION   PLAN

THE ROAD AHEAD

MOOD EMERGENCY PLAN

Increase your rewards	Reduce your obligations
Get professional help	Seek support
Manage your lifestyle	

Developing a plan of positive action to deal with a
setback if one occurs

BREAK OUT ROOMS: INCREASE YOUR REWARDS

BREAK OUT ROOMS: REDUCE YOUR OBLIGATIONS

- Reducing work hours
- Getting a babysitter
- Paying for a cleaner

BREAK OUT ROOMS: GET PROFESSIONAL HELP

- Keep a list of your mental health professionals easily accessible.
- Allow a few trusted loved ones to tell you when they feel you need extra help.
- Arrange to avoid a waiting list with your therapist if an emergency arises.

BREAK OUT ROOMS: SEEK SUPPORT

THE DO'S AND DONT'S

DO	DON'T
Continue to set achievable goals.	Don't wait for things to happen or change.
Reward yourself for your achievements.	Don't focus on disappointments.
Simplify or change goals that are not working for you.	Don't get stuck continuing with goals that you find frustrating.
Make plans for your free time.	Don't sit around with nothing to do.
Make contact with friends at least once a week (and preferably much more often).	Don't isolate yourself when feeling down.
Make a plan for meeting new friends.	Don't wait for people to approach you.
Discuss and share the positive parts of your life with friends.	Don't focus entirely on the negative.
Be consistent with your daily schedule (e.g., regular bed-times and rising times).	Don't just "float" through your day, letting your mood dictate your schedule.
Seek out and initiate pleasant activities and events.	Don't get stuck in a routine that does not allow you the opportunity to enjoy life.
Stay aware of automatic thoughts that affect your mood.	Don't let negative automatic thoughts go unchallenged.

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SAYING FAREWELL

End-Point Questionnaires

Please complete the questionnaires which are located here:

- https://rmit.asia.qualtrics.com/SE/?SID=SV_3reUtBP8sH1mniY
- https://rmit.asia.qualtrics.com/SE/?SID=SV_e2MvHqmRKtlviDi

Your facilitator will remain in here for another hour should you wish to discuss the questionnaires or ask any further questions.

Please note that you will be emailed with similar questionnaires in 1, 3 and 6 months so we can check on your progress.

Congratulations on completing MoodGroup!

Appendix E: RMIT Human Research Ethics Committee Approval Notice Project 33/11

RMIT
UNIVERSITY

Human Research Ethics Committee (HREC)
Research and Innovation office

Notice of Approval

Date: **18 July 2011**

Project number: **33/11**

Project title: ***The efficacy of an online group therapy intervention for the treatment of depression in Australian adults***

Risk classification: **More than low risk**

Investigator: **Kerry Arrow**

Approved: From: **18/7/2011** To: **31/12/2013**

Terms of approval:

1. **Responsibilities of investigator**
   It is the responsibility of the above investigator to ensure that all other investigators and staff on a project are aware of the terms of approval and to ensure that the project is conducted as approved by HREC. Approval is only valid whilst investigator holds a position at RMIT University.

2. **Adverse events**
   You should notify HREC immediately of any serious or unexpected adverse effects on participants or unforeseen events affecting the ethical acceptability of the project.

3. **Plain Language Statement (PLS)**
   The PLS and any other material used to recruit and inform participants of the project must include the RMIT university logo. The PLS must contain a complaints clause including the above project number.

4. **Amendments**

To amend any approved documents or other aspects of the approved project (including changes in personnel) requires the submission of a request for amendment form to HREC. Amendments must not proceed without approval from HREC. Substantial variations may require a new application.

5. **Annual reports**
   Continued approval of this project is dependent on the submission of an annual report.

6. **Final report**
   A final report must be provided at the conclusion of the project. HREC must be notified if the project is discontinued before the expected date of completion.

7. **Monitoring**
   Projects may be subject to an audit or any other form of monitoring by HREC at any time.

8. **Retention and storage of data**
   The investigator is responsible for the storage and retention of original data pertaining to a project for a minimum period of five years.

In any future correspondence please quote the project number and project title above.

A/Prof Barbara Polus

Chairperson

RMIT HREC

cc: Dr Peter Burke (Ethics Officer/HREC secretary), A/Prof Andrea Chester (supervisor).

Appendix F: MoodGroup Session Evaluation Questionnaires

1. Please answer these questions by ticking the most appropriate answer for each statement.

	Question	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
1	The content/information was relevant to me					
2	The content/information was helpful to me					
3	The information was clearly presented					
4	There was a good balance between theory and practice					
5	The group activities/ discussions were useful to me					
6	The readings were useful and easy to understand					

2. What did you learn in this session?

3. What did you like most about this session?

4. What did you like least about this session?

5. How might this session be improved?

6. Additional comments

Appendix G: Modified Scale for Suicidal Ideation

Instructions:

The presence of this scale is to assess the presence of absence of suicidal ideation and the degree of severity of suicidal ideas. The time frame is from the point of the questionnaire and the previous 48 hours.

1. **Wish to Die**

   Over the past day or two have you thought about wanting to die?

   Do you want to die now?

   0. None- no current wish to die, hasn't thought about wanting to die.
   1. Unsure about wanting to die, seldom thinks about death.
   2. Moderate-current desire to die, may be preoccupied with thoughts about death.
   3. Strong- current death wish, high frequency or high intensity over the past day or two.

2. **Wish to Live**

   Over the past day or two have you thought that you want to live?

   Do you care if you live or die?

   0. Strong- current desire to live, high frequency or high intensity.
   1. Moderate- current desire to live, thinks about wanting to live quite often, can easily turn thoughts away from death or intensity seems more than a rating of 2.
   2. Weak- unsure about wanting to live, occasional thoughts about living or intensity seems low.
   3. None- no wish to live.

3. **Desire to make an active suicide attempt**

   Over the past day or two when you have thought about suicide did you want to kill yourself? How often? A little? Quite often? A lot?

   Do you want to kill yourself now?

   0. May have had thoughts but do not want to make an attempt.

1. Weak- unsure about wanting to make an attempt.

2. Moderate- wanted to act on thoughts at least once in the last 48 hours.

3. Strong- wanted to act on thoughts several times and/or almost certain about wanting to kill self

4. **Passive suicide attempt**

   Right now would you deliberately ignore taking care of your health?

   Do you feel like trying to die by eating too much (too little), drinking too much (too little), or by not taking needed medications?

   Have you felt like doing any of these things over the past day or two?

   Over the past day or two, have you felt that it would be good to leave life or death to chance, for example, carelessly crossing a busy street, driving recklessly, or even walking alone at night in a rough part of town?

   0. None- would take precautions to maintain life.

   1. Weak- not sure about leaving life/death to chance, or has thought about gambling with fate at least once in the last two days.

   2. Moderate – would leave life/death to chance, almost sure I would gamble.

   3. Strong- avoided necessary steps to maintain or save life, e.g., stopped taking needed medications.

5. **Duration of thoughts**

   Over the past day or two when you had thoughts of suicide how long did the thoughts last?

   Were they fleeting, e.g., for a few seconds?

   Did they occur for a while and then stop, e.g., a few minutes?

   Did they occur for longer periods, e.g., an hour at a time?

   Is it to the point where you cant seem to get them out of your mind?

   0. N/A or brief, fleeting periods.

   1. Short duration- several minutes.

   2. Longer duration- an hour or more.

   3. Almost continuous- hard to turn attention away from suicidal thoughts, can't seem to get them out of mind.

6. **Frequency of ideation?**

Over the past day or two how often have you had thoughts of suicide? Once a day?

Once an hour? More than that? All of the time?

0. N/A or rare- once in the past 48 hours.

1. Low frequency- twice or more in the past 48 hours.

2. Intermittent- approximately every hour.

3. Persistent- several times an hour.

7. **<u>Intensity of thoughts</u>**

Over the past day or two, when you have had thoughts about suicide, have they been

intense (powerful)?

How intense have they been? Weak? Somewhat strong? Moderately strong? Very

strong?

0. N/A or very weak.

1. Weak

2. Moderate

3. Strong

8. **<u>Deterrent to active attempt</u>**

Can you think of anything that would keep you from killing yourself?

(Your religion, consequences for your family, chance that you may seriously injure

yourself if unsuccessful).

0. Definite deterrent- wouldn't attempt suicide because of deterrent.

1. Probable deterrent- can name at least one deterrent, but does not definitely rule
   out suicide.

2. Questionable deterrent- trouble naming any deterrent, seems focussed on the
   advantages of suicide, minimal concern over the deterrents.

3. No deterrent- no concerns over consequences to self or others.

9. **<u>Reasons for living and dying</u>**

Right now can you think of any reasons why you should stay alive?

What about over the past day or two?

Over the past day or two have you thought that there are things happening in your

life that make you want to die?

Reasons for living:

Reasons for dying:

Do you think that your reasons for dying are better than your reasons for living?

Would you say that your reasons for living are better than your reasons for dying?

Are your reasons for living and dying about equal in strength, 50-50?

0. No reasons for dying, never occurred to me to weigh reasons.

1. Has reasons for living and occasionally has thought about reasons for dying.

2. Not sure which reasons are more powerful, living and dying are about equal, or those for dying slightly outweigh those for living.

3. Reasons for dying strongly outweigh reasons for living, can't think of any reason for living.

Method

Over the last day or two have you been thinking about a way to kill yourself, the method you might use?

Do you know where to get these materials?

Have you thought about jumping from a high place? Where would you jump?

Have you thought about using a car to kill yourself? Your own? Someone else's?

What highway or road would you use?

When would you try to kill yourself? Is there a special event (e.g. anniversary, birthday with which you would like to associate your suicide?

Have you thought about any other ways you might kill yourself?

10. Degree of specificity or planning

0. Not considered, method not thought about.

1. Minimal consideration.

2. Moderate consideration.

3. Details worked out, plans well formulated.

11. Method: Availability/Opportunity

Over the past day or two have you thought methods are available to you to commit suicide?

Would it take time/effort to create an opportunity to kill yourself?

Do you foresee opportunities being available to you in the near future (e.g. leaving hospital?).

0. Method not available, no opportunity.

1. Method would take time/effort, opportunity not readily available, e.g., would have to purchase poisons, get prescriptions, borrow or buy a gun.

2. Future opportunity or availability anticipated.

3. Method or opportunity available- pill, gun, car available, time selected

12. <u>Sense of courage to carry out the attempt</u>

Do you think you have the courage to commit suicide?

0. No courage, too weak, too afraid.

1. Unsure of courage.

2. Quite sure.

3. Very sure.

13. <u>Competence</u>

Do you think you have the ability to carry out suicide?

Can you carry out the necessary steps to insure a successful suicide?

How convinced are you that you would be effective in bringing an end to your own life?

0. Not competent

1. Unsure

2. Somewhat sure

3. Convinced of ability to do it

14. <u>Expectancy of actual attempt</u>

Over the last day or two have you thought that suicide is really something you might do sometime?

Right now what are the chances you would try to kill yourself if left alone to your own devices?

Would you say that the chances are less than 50%? About equal? More than 50%?

0. Definitely would not make an attempt.

1. Unsure- might make an attempt but chances are less than 50% or almost equal, 50-50.

2. Almost certain- chances are greater than 50% that suicide would be attempted.

3. Certain- will make an attempt if left alone

15. <u>Talk about death/suicide</u>

Over the last day or two have you noticed yourself talking about death more than usual?

Can you recall whether or not you spoke to anyone, even jokingly, that you might welcome death or try to kill yourself?

Have you confided in a close friend, religious person, or professional helper, that you intend to commit suicide?

0. No talk of death/suicide.
1. Probably talked about death more than usual but no specific mention of death wish. May have alluded to suicide using humour.
2. Specifically stated wish to die.
3. Confided about plans to commit suicide.

16. <u>Writing about death/suicide?</u>

Have you written about death or suicide, e.g.: poetry, in a personal diary?

0. No written material.
1. General comments regarding death.
2. Specific reference to death wish.
3. Specific reference to plans for suicide.

17. <u>Suicide note</u>

Over the last day or two have you thought about leaving a note or writing a letter about your suicide?

Do you know what you'd say? Who would you leave it for? Have you written it out yet?

Where did you leave it?

0. None- hasn't thought about a suicide note.

1. 'Mental note'-has thought about a suicide note, those it would be given to, possibly worked out general themes which would be put in the note (e.g., being a burden to others, etc.).

2. Started- suicide note partially written, may have misplaced it.

3. Completed note- written out, definite plans about content, addressee.

18. <u>Actual preparation</u>

Over the past day or two have you actually done something to prepare for your own suicide, e.g., collected materials, pills, guns, etc.?

0. None- no preparation.

1. Probable preparation- not sure, may have started to collect materials.

2. Partial preparation- definitely started to organize method of suicide.

3. Complete- has pills, guns, or other devices needed to kill self.

Appendix H: Major (ICD-10) Depression Inventory

The following questions ask about how you have been feeling over the last two weeks. Please put a tick in the box which is closest to how you have been feeling.

		How much of the time…	All the time	Most of the time	Slightly more than half the time	Some of the time	At no time
1	**Have you felt low in spirits or sad?**						
2	**Have you lost interest in your daily activities?**						
3	**Have you felt lacking in energy or strength?**						
4	**Have you felt less confident?**						
5	**Have you had a bad conscience or feelings of guilt?**						
6	**Have you felt that life wasn't worth living?**						

7	Have you had difficulty in concentrating, e.g. when reading the newspaper or watching T.V?						
8a	Have you felt very restless?						
8b	Have you felt subdued or slowed down?						
9	Have you had trouble sleeping at night?						
10a	Have you suffered from reduced appetite?						
10b	Have you suffered from increased appetite?						

Appendix I: Depression Anxiety Stress Scale- DASS 21

Please read each statement and circle a number 0,1,2 or 3 which indicates how much the statement applied to you over the past week. There are no right or wrong answers. Do not spend too much time on any statement.

The rating scale is as follows:

0. Did not apply to me at all
1. Applied to me to some degree, or some of the time
2. Applied to me a considerable degree, or a good part of the time
3. Applied to me very much, or most of the time

1	I found it hard to wind down	0	1	2	3
2	I was aware of dryness of my mouth	0	1	2	3
3	I couldn't seem to experience any positive feeling at all	0	1	2	3
4	I experienced breathing difficulty (e.g., excessively rapid breathing, breathlessness in the absence of physical exertion)	0	1	2	3
5	I found it difficult to work up the initiative to do things	0	1	2	3
6	I tended to overreact to situations	0	1	2	3
7	I experienced trembling (e.g., in the hands)	0	1	2	3
8	I felt that I was using a lot of nervous energy	0	1	2	3
9	I was worried about situations in which I might panic and make a fool of myself	0	1	2	3
10	I felt that I had nothing to look forward to	0	1	2	3
11	I found myself getting agitated	0	1	2	3
12	I found it difficult to relax	0	1	2	3
13	I felt down-hearted and blue	0	1	2	3
14	I was intolerant of anything that kept me from getting on with what I was doing	0	1	2	3
15	I felt I was close to panic	0	1	2	3
16	I was unable to become enthusiastic about anything	0	1	2	3
17	I felt I wasn't worth much as a person	0	1	2	3

18	I felt that I was rather touchy	0	1	2	3
19	I was aware of the action of my heart in the absence of physical exertion (e.g., sense of heart rate increase, heart missing a beat)	0	1	2	3
20	I felt scared without any good reason	0	1	2	3
21	I felt that life was meaningless	0	1	2	3

Appendix J: Quality of Life Inventory- Shortened

Thinking about your own life and personal circumstances, please tick the box that represents how satisfied you are with:

	Completely Dissatisfied	Dissatisfied	Somewhat Dissatisfied	Neither Satisfied nor Dissatisfied	Somewhat Satisfied	Satisfied	Completely Satisfied
Your standard of living?							
Your health?							
What you are achieving in your life?							
Your personal relationships?							
How safe you feel?							
Feeling part of your community?							
Your future security?							
Your spirituality or religion?							

Appendix K: Dysfunctional Attitudes Scale-Short Form 1

The sentences below describe people's attitudes. Circle the number which best describes how much each sentence describes your attitude. Your answer should describe the way you think most of the time.

		Totally agree	**Agree**	**Disagree**	**Totally disagree**
1.	If I don't set the highest standards for myself, I am likely to end up a second-rate person.	1	2	3	4
2.	My value as a person depends greatly on what others think of me.	1	2	3	4
3.	People will probably think less of me if I make a mistake.	1	2	3	4
4.	I am nothing if a person I love doesn't love me.	1	2	3	4
5.	If other people know what you are really like, they will think less of you.	1	2	3	4
6.	If I fail at my work, then I am a failure as a person.	1	2	3	4
7.	My happiness depends more on other people than it does me.	1	2	3	4
8.	I cannot be happy unless most people I know admire me.	1	2	3	4
9.	It is best to give up your own interests in order to please other people.				

Appendix L: Behavioural Activation for Depression Scale

Please read each statement carefully and then circle the number which best describes how much the statement was true for you DURING THE PAST WEEK, INCLUDING TODAY.

	0 = Not at all 1 2= A little 3 4= A lot 5 6= Completely							
		0	**1**	**2**	**3**	**4**	**5**	**6**
1.	I stayed in bed for too long even though I had things to do.	O	O	O	O	O	O	O
2.	There were certain things I needed to do that I didn't do.	O	O	O	O	O	O	O
3.	I am content with the amount and types of things I did.	O	O	O	O	O	O	O
4.	I am content with the amount and types of things I did.	O	O	O	O	O	O	O
5.	I made good decisions about what type of activities and/or situations I put myself in.	O	O	O	O	O	O	O
6.	I was active, but did not accomplish any of my goals for the day.	O	O	O	O	O	O	O
7.	I was an active person and accomplished the goals I set out to do.	O	O	O	O	O	O	O
8.	Most of what I did was to escape from or avoid something unpleasant.	O	O	O	O	O	O	O
9.	I did things to avoid feeling sadness or other painful emotions.	O	O	O	O	O	O	O
10.	I tried not to think about certain things.	O	O	O	O	O	O	O
11.	I did things even though they were hard because they fit in with my long-term goals for myself	O	O	O	O	O	O	O
12.	I did something that was hard to do but it was worth it.	O	O	O	O	O	O	O
13.	I spent a long time thinking over and over about my problems.	O	O	O	O	O	O	O

		0	1	2	3	4	5	6
	0 = Not at all 1 2= A little 3 4= A lot 5 6= Completely							
14.	I kept trying to think of ways to solve a problem but never tried any of the solutions.	O	O	O	O	O	O	O
15.	I frequently spent time thinking about my past, people who have hurt me, mistakes I've made, and other bad things in my history.	O	O	O	O	O	O	O
16.	I did not see any of my friends.	O	O	O	O	O	O	O
17.	I was withdrawn and quiet, even around people I know well.	O	O	O	O	O	O	O
18.	I was not social, even though I had opportunities to be.	O	O	O	O	O	O	O
19.	I pushed people away with my negativity.	O	O	O	O	O	O	O
20.	I did things to cut myself off from other people.	O	O	O	O	O	O	O
21.	I took time off of work/school/chores/responsibilities simply because I was too tired or didn't feel like going in.	O	O	O	O	O	O	O
22.	My work/schoolwork/chores/responsibilities suffered because I was not as active as I needed to be.	O	O	O	O	O	O	O
23.	I structured my day's activities.	O	O	O	O	O	O	O
24.	I only engaged in activities that would distract me from feeling bad.	O	O	O	O	O	O	O
25.	I began to feel badly when others around me expressed negative feelings or experiences.	O	O	O	O	O	O	O

Appendix M: Group Climate Questionnaire- Shortened

- Read each statement carefully and as you answer the questions think of the group as a whole.
- For each statement fill in the box under the MOST APPROPRIATE heading that best describes the group during the four sessions.
- Please mark only ONE box for each statement.

	Not at All (0)	A Little Bit (1)	Somewhat (2)	Moderately (3)	Quite a Bit (4)	A Great Deal (5)	Extremely (6)
1. The members liked and cared about each other							
2. The members tried to understand why they do the things they do, tried to reason it out							
3. The members avoided looking at important issues going on between themselves							
4. The members avoided looking at important issues going on between themselves							
5. The members avoided looking at important issues going on between themselves							

6. There was friction and anger between the members						554
7. The members were distant and withdrawn from each other						
8. The members challenged and confronted each other in their efforts to sort things out						
9. The members appeared to do things the way they thought would be acceptable to the group						
10. The members rejected and distrusted each other						
11. The members revealed sensitive personal information or feelings						
12. The members revealed sensitive personal information or feelings						

Appendix N: RMIT Human Research Ethics Committee Approval Notice Project 15/13

RMIT
UNIVERSITY

Human Research Ethics Committee (HREC)
Research and Innovation office
NH&MRC Code: EC00237

Notice of Approval

Date: 1 July 2013

Project number: 15/13

Project title: *Facilitating and supervising group therapy online: The MoodGroup experience*

Risk classification: Low risk

Investigator: A/Prof Andrea Chester

Approved: From: 1 July 2013   To: 30 June 2014

Terms of approval:
1. **Responsibilities of investigator**
   It is the responsibility of the above investigator to ensure that all other investigators and staff on a project are aware of the terms of approval and to ensure that the project is conducted as approved by HREC. Approval is only valid whilst investigator holds a position at RMIT University.
2. **Amendments**
   Approval must be sought from HREC to amend any aspect of a project including approved documents. To apply for an amendment use the request for amendment form, which is available on the HREC website and submitted to the HREC secretary. Amendments must not be implemented without first gaining approval from HREC.
3. **Adverse events**
   You should notify HREC immediately of any serious or unexpected adverse effects on participants or unforeseen events affecting the ethical acceptability of the project.
4. **Plain Language Statement (PLS)**
   The PLS and any other material used to recruit and inform participants of the project must include the RMIT university logo. The PLS must contain a complaints clause including the above project number.
5. **Annual reports**
   Continued approval of this project is dependent on the submission of an annual report.
6. **Final report**
   A final report must be provided at the conclusion of the project. HREC must be notified if the project is discontinued before the expected date of completion.
7. **Monitoring**
   Projects may be subject to an audit or any other form of monitoring by HREC at any time.
8. **Retention and storage of data**
   The investigator is responsible for the storage and retention of original data pertaining to a project for a minimum period of five years.
9. **Special conditions of approval**
   Nil.

In any future correspondence please quote the project number and project title above.

A/Prof Barbara Polus
Chairperson
RMIT HREC

cc: Dr Peter Burke (Ethics Officer/HREC secretary), Kerry Arrow (student researcher).