An Exploratory Analysis of Change During Group CBT for Social Phobia in Clinical Practice: A Treatment-Effectiveness Study.

A thesis
submitted in partial fulfilment for
the degree of
Master of Arts in Psychology
at the
University of Canterbury.

By
Marion Rudge.

Supervised by
Associate Professor Neville Blampied,
Mr Ron Chambers, and Dr Helen Colhoun.

University of Canterbury
2007
14 September 2005

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Dear Marion Rudge,

Mechanisms of change in social phobia during cognitive behavioural therapy
Investigators: M Rudge, A/Prof N Blampied (Supervisor), R Chambers, Dr H Colhoun
Ethics ref: URA/05/09/108

Thank you for your response to the Committee’s suggestions. The above study has now been
given ethical approval. Approval includes the amendment to the recruitment process, as outlined

Approved Documents
- Information sheet and consent form version 2
- Questionnaires:
  DASS21
  Probability/Cost
  Subjective Probability
  SESS Scale
  Brief Fear of Negative Evaluation
  Focus of Attention
  LOCS
  Fear questionnaire – Social Phobia Subscale
  Treatment Expectancy
  Questionnaire for Therapists

Certification
The Committee is satisfied that this study is not being conducted principally for the benefit of the
manufacturer or distributor of the medicine or item in respect of which the trial is being carried out.

Accreditation
This Committee is accredited by the Health Research Council and is constituted and operates in
accordance with the Operational Standard for Ethics Committees, March 2002.

Reporting
The study is approved until 15 March 2007. The Committee will review the approved application
annually. A progress report is required for this study in September 2006. You will be sent a form
requesting this information prior to the review date. Please note that failure to complete and return
this form may result in the withdrawal of ethical approval. A final report is also required at the
conclusion of the study.
Amendments
All amendments to the study must be advised to the Committee prior to their implementation, except in the case where immediate implementation is required for reasons of safety. In such cases the Committee must be notified as soon as possible of the change.

It is also a condition of approval that the Committee is advised of any adverse events, if the study does not commence, or the study is altered in any way, including all documentation eg advertisements, letters to prospective participants. Please quote the above ethics committee reference number in all correspondence.

General
It should be noted that Ethics Committee approval does not imply any resource commitment or administrative facilitation by any healthcare provider within whose facility the research is to be carried out. Where applicable, authority for this must be obtained separately from the appropriate manager within the organisation.

We wish you well with your study.

Yours sincerely

[Signature]

Alleke Dierckx
Upper South A Ethics Committee Administrator
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ABSTRACT

The effectiveness of a Group CBT programme for Social Phobia was assessed using 18 participants recruited from a routine practice setting. Therapy was based on CBT techniques as practiced routinely by the clinical practice, and were not modified for the study by factors such as strict exclusion criteria and adherence to rigid manualised treatments. Pre- to post-treatment effect sizes compared favourably with those reported in a meta-analysis (Taylor, 1996). The findings provide support for the accessibility and effectiveness of group CBT techniques for Social Phobia in field settings. While some individuals within the sample experienced dramatic improvement, some remained severely impaired even at post-treatment. The results of Hierarchical Multiple Regressions indicated that lower levels of pre-treatment depression severity, higher levels of attendance, and greater homework compliance, were predictive of more improvement on some, but not all, measures of outcome. Implications for treatment are discussed.
ACKNOWLEDGEMENTS

There are a number of people who have directly and indirectly contributed to the process of carrying out this research.

I would like to thank my primary supervisor, Associate Professor Neville Blampied, whose wise guidance in this thesis has been invaluable. I have appreciated your “pound-the-table” commitment to careful analysis of the raw data and never losing sight of the experience of the individual! By sharing your perspective, which can only come from years of experience, you have helped me through some of the tougher times during this process.

I am grateful to my supervisors at the Anxiety Disorders Service – Mr Ron Chambers and Dr Helen Colhoun, as well as to the therapists who allowed me to collect data from their groups. This research would not have been possible without your commitment and enthusiasm. Thankyou.

I am thankful to the participants who took a leap in becoming involved in this research. Their willingness to trust me with personal information, and to come face to face with their fears during therapy, is a testament to their determination and strength. I deeply respect your courage, and I hope I have served you well in this research.

I owe my gratitude to Professor Garth Fletcher for his statistical genius. I am thankful for his willingness to help me with my regression analyses whenever I was in a state of statistical confusion – which was often! Thanks also to Liz Kyonka, for her statistical assistance over the course of this research.
I would like to acknowledge two scholarships granted to me during my postgraduate studies in Clinical Psychology and this Masters Research. The New Zealand Vice Chancellors Committee for granting me the William Georgetti Scholarship, and the University of Canterbury for awarding me a Masters Scholarship. I appreciate the vote of confidence these bodies gave me by awarding me these scholarships.

On a more personal note, I would like to acknowledge my family for their support in helping me reach this point not only in my studies, but in my life. You have been enormously influential in my development, and have given me the seeds of a faith that has sustained me. And my family-in-law – your interest and encouragement in what I do, and open acceptance of me into your family, is a reflection of your kind-heartedness.

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CHAPTER ONE

INTRODUCTION

According to the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR) (American Psychiatric Association, 2000), Social Phobia is a disorder in which the sufferer experiences significant and ongoing fear that they will act in an embarrassing way, or have embarrassing physical reactions in a social situation. They fear that their behaviour will be evaluated negatively by unfamiliar others. Individuals with social phobia tend to avoid their feared situations, or perhaps endure them with significant anxiety. Adults with Social Phobia are aware that their anxiety is excessive and unwarranted (American Psychiatric Association, 2000).

Social Phobia usually begins in mid-teens, having developed slowly since early childhood, or having a sudden onset after an embarrassing incident. In adulthood, Social Phobia can become more severe or remit. In most cases it is thought to be a lifelong disorder, with peaks and troughs in severity and impact as the individual navigates their way through various life experiences, and situations which require more or less exposure to feared situations (American Psychiatric Association, 2000).

Individuals with Social Phobia commonly underachieve in school and work life, often as a result of their anxiety and avoidance of their feared situations (e.g., avoiding speaking to groups or people in authority). In some cases individuals may not complete their schooling or may be unemployed as a result of their social anxiety. They may be too anxious to attend a job interview or face the anxiety-provoking
situations that these environments would inevitably produce (American Psychiatric Association, 2000). In their social lives these individuals may have difficulty making friends, establishing and accessing social supports, asking people out on dates, and developing intimate relationships. In some cases the individual may continue living with their family of origin long after their non-anxious counterparts have left home (American Psychiatric Association, 2000).

Social Phobia has a lifetime prevalence of between 3% and 13% and accounts for between 10-20% of clients with Anxiety Disorders in outpatient settings (American Psychiatric Association, 2000). In the United States, Kessler found a lifetime prevalence rate of 13.3% and a 12 month prevalence rate of 7.9%, (Kessler et al., 1994). Closer to home, a recent survey of almost 13 000 New Zealanders (73.3% response rate) found a lifetime prevalence of 9.4% and a 12 month prevalence of 5.1% (Browne, Wells, Scott, & McGee, 2006; Wells et al., 2006). Of those with social phobia, 21.2% fell in the mild range, 48.3% in the moderate range, and 30.4 % in the severe range (Wells et al., 2006). In the same survey, Maori were found to have a 12 month prevalence of 6.2% and a lifetime prevalence of 11.4% (Baxter, Kingi, Tapsell, Durie, & McGee, 2006).

1.1 Conceptual Basis of Social Phobia Treatment at the Anxiety Disorders Service

The Anxiety Disorders Service (ADS), at which this research was conducted, is a centre specialising in the treatment of Anxiety Disorders. It is based in Christchurch, New Zealand, and is the only one of its kind locally. The ADS is a part of the
Canterbury District Health Board and, as part of the New Zealand public health system, services are provided free of charge. The ADS originally based their Social Phobia Group treatments on information and protocols from the Clinical Research Unit for Anxiety and Depression (CRUfAD) at St Vincents Hospital in Australia. CRUfAD is associated with the University of New South Whales and the World Health Organisation Collaboration Centre, and its guidelines cover core cognitive-behavioural strategies. These include strategies such as education, breathing and anxiety symptom control, graded exposure, the reduction of safety behaviours, teaching realistic thinking, and training in social skills (CRUfAD Website: www.crufad.com).

While the ADS has been influenced by the CRUfAD guidelines, therapists come from a variety of backgrounds including clinical psychology and social work, and largely follow core CBT principles rather than strictly adhering to one particular model of social phobia treatment. Consequently, a generic cognitive model (such as that described by Beck, 1995, outlined below) is perhaps more apposite to describe the ADS approach since it embodies the core concepts from which CBT techniques stem. Social phobia groups at the ADS cover a number of core cognitive-behavioural techniques in their group treatments. These include an explanation of the treatment rationale, relevant social skills training, breathing and relaxation, cognitive restructuring, exposure, addressing avoidance and safety behaviours, attention training, overlearning, and relapse prevention.

More recently some ADS therapists have incorporated some elements from the Clark and Wells (1995) Social Phobia model. This model is largely cognitive and seeks to
explain the maintenance of social phobia within a cognitive-behavioural framework and incorporates ideas from other models of social phobia (Wells, 1997). Wells (1997) describes some core concepts of the model in a chapter from his book on Cognitive Therapy of Anxiety Disorders which integrates some of the work done by both Clark and Wells on their model and treatment of social phobia.

As described in this model, social phobics tend to see themselves from an observer’s perspective and long for others to regard them positively, but at the same time doubt their ability to behave in a way which they believe will achieve this outcome. In social situations they are plagued by assumptions and thoughts that they will perform in an undesirable way and be judged negatively. Given the value they place on what others think of them, this anticipated outcome is catastrophic. Consequently, social situations are perceived as threatening or dangerous and with this interpretation the sufferer naturally experiences anxiety symptoms. The display of these symptoms is then perceived by the sufferer as proof of their social failure and a source of further embarrassment. Attention tends to be focussed inward which prevents disconfirmation of fears such as ‘everybody is watching me’ since the sufferer is less inclined to check the evidence by focussing their attention externally. Rather they mistakenly believe that others see them the same way they see themselves. Safety behaviours are intended to prevent social failure but paradoxically make social failure more likely (e.g., rehearsing what one will say in a conversation in an effort to ensure one will come across confident results in a more stilted and awkward conversation), which is cause for further distress (see Wells, 1997 for a review).
In order to attend the ADS and be assigned a social phobia group, an individual will have been through a number of phases. Individuals seen at the ADS in the first instance are referred by other services in the community, general practitioners and so on. Referred individuals attend a clinical interview with a therapist. At the end of the session the therapist feeds back their conceptualisation of the case and their recommendations for treatment. Specifically, if an individual is diagnosed with social phobia, they will either receive individual therapy or be invited to join a group. In the case of group therapy, client and therapist collaboratively decide which group will best fit the client’s time schedule. Before the group begins, all group members attend a “Behavioural Assessment” with the group therapist. During this assessment a thorough functional analysis of the problem behaviours takes place, specific and concrete goals are set, and a broad hierarchy of feared situations is drawn up. Group members are also invited to attend an optional Breathing and Retraining workshop prior to the commencement of the group.

After the completion of the group, all group members meet individually with the group therapist for a follow-up session. During this time feedback from client and therapist takes place, progress toward goals is discussed, and future plans are collaboratively made for either additional therapy or discharge. Routine psychometric measures are completed pre- and post-treatment. These, however, were not included in the current study, as time lags varied between individuals and some individuals did not complete all measures.
1.2 COGNITIVE BEHAVIOURAL THERAPY AND HOW IT WORKS

According to Beck’s (1995) general cognitive model, reproduced in Figure 1, the core beliefs and negative automatic thoughts one has in a situation (essentially, one’s interpretation of a situation), result in emotional, behavioural, and physiological responses.

![Diagram of Beck's Cognitive Model]

**Figure 1**: Beck’s Cognitive Model [Adapted from Beck (1995, p18)].

For purposes of illustration, let us consider a scenario of how this general model may be applied in the case of an individual with Social Phobia. In this example, the individual is attending a family member’s wedding. Let us presume this individual has a core belief such as “I am inadequate”. During the reception this core belief may drive negative automatic thoughts such as “Everyone is watching me. Everyone thinks I’m no good”. With this interpretation the social situation is experienced as aversive, socially threatening and anxiety provoking. As a consequence, the individual will have a combination of responses. They are likely to experience a physiological
anxiety response (e.g., sweat or shake). This fear response can be so great that many people with social phobia may experience a full blown panic attack upon exposure to a feared social situation (American Psychiatric Association, 2000). Anxiety symptoms are often further interpreted by the sufferer as potentially humiliating since they believe people may notice their anxiety symptoms and judge them negatively. They may also have an emotional response of fear. In addition, they will have a behavioural response such as escaping from the situation, avoiding talking to others, or employing safety behaviours such as not looking at anyone, or keeping an eye out for an exit. While some avoidance behaviours may be overt (e.g., leaving the room) others may be more subtle (e.g., mentally rehearsing a conversation). In either case, these responses further reinforce their fears.

Cognitive Behavioural Therapy (CBT) is a common treatment approach for many disorders and there is considerable support for its use in Social Phobia (e.g., Gould, Buckminster, Pollack, Otto, & Yap, 1997; Taylor, 1996). Two major components of CBT – Cognitive Therapy and Exposure Therapy (graded or full exposure), are central in the treatment of social phobia (see Rodebaugh, Holaway, & Heimberg, 2004 for a review). In cognitive restructuring (Beck, Emery, & Greenberg, 1985; Beck, 1995) the client is taught to identify negative automatic thoughts (NATs). NATs are unhelpful thoughts that automatically “go through one’s mind” when a person experiences a change in their feelings (e.g., notices themselves becoming very anxious) (Beck, 1995). Clients are taught to firstly catch these thoughts (i.e., to become fully conscious of them), then learn to identify them as unrealistic and test them against evidence (Beck et al., 1985; Beck, 1995). The client is then trained to develop more realistic thoughts, which replace the NATs. In this way clients learn to
evaluate and think more realistically about situations which they perceive as threatening, and are fearful of. The process of restructuring and replacing negative automatic thoughts is repeated, before exposures take place, until the client is well practiced at catching NATs, checking out how realistic they are, and replacing them with more realistic thoughts. This thought challenging is done during exposures as well as after (reviewed in Rodebaugh, Holaway et al., 2004).

Graded Exposure is a technique whereby the therapist and client develop a list of feared situations and rank them according to their fearfulness for the client. Clients are first armed with cognitive restructuring skills and breathing and relaxation techniques to relax the body and reduce the anxiety response (see Davis, Eshelman, & McKay, 2000). The patient is then repeatedly exposed to progressively more anxiety provoking situations and is required to remain in that situation until the fear dissipates without escape, avoidance, or the use of safety behaviours (e.g., avoiding eye contact with others, using alcohol).

Graded exposure is important as individuals learn that avoidance, escape, and the performance of safety behaviours are not the only ways to reduce anxiety and prevent a dreaded catastrophic outcome (e.g., Wells, 1997). By remaining in a situation, practicing alternative coping strategies (such as relaxation, practicing realistic thinking, and checking for hard evidence) exposure can provide new learning and disconfirming evidence of an individual’s unhelpful and unrealistic thoughts and assumptions. In so doing their interpretation of a situation becomes less threatening, more realistic, and hence less feared and less avoided (Rodebaugh, Holaway et al., 2004).
Full exposure is based on similar principles but rather than moving through progressively more and more anxiety provoking situations, the individual is repeatedly fully exposed to a highly anxiety provoking situation, and is encouraged to not escape or use safety behaviours. Over time the individual habituates to situations in which their anxiety was previously elicited (Rodebaugh, Holaway et al., 2004).

1.3 Change Mechanisms of Interest in the Current Study

Central Constructs: Cognitive, Behavioural and Physiological

Fear of negative evaluation (Watson & Friend, 1969) is a central concept in social phobia. Mattick and Peters (1988) found that change in fear of being negatively evaluated substantially predicted endstate functioning in individuals with severe social phobia. Indeed, the first criteria for a diagnosis of Social Phobia is a fear of situations where the individual may be scrutinized since they fear they will act in a way that could be humiliating (American Psychiatric Association, 2000). If an individual with social phobia perceives they are being evaluated negatively, their anxiety will likely be exacerbated ( Rapee & Heimberg, 1997). In such circumstances they will experiences more frequent or intrusive negative automatic thoughts and be less able to process non-threatening external cues in the social situation unfolding around them (Rapee & Heimberg, 1997).

Having a high fear of being negatively evaluated is thought to be associated with certain predictable behaviours such as avoidance of situations in which negative
evaluation may occur (Watson & Friend, 1969). When an individual avoids or escapes an anxiety provoking situation, they either prevent the experience of anxiety, as in avoidance (by escaping a cue which signals an upcoming aversive social event, or is associated/conditioned with the aversive social event itself), or experience an immediate reduction in their anxiety, as in escape (e.g., Kazdin, 2001). Both avoidance and escape are therefore extremely negatively reinforcing. Unfortunately, since the individuals is then not in the feared situation, they have less opportunity to process evidence that could challenge their fearful thoughts and assumptions, which might reduce their anxiety (Beck et al., 1985). Because escape and avoidance function to withdraw or prevent an aversive stimuli (e.g., anxiety), these behaviours are reinforced, making them more likely in the future, even though they actually work to maintain the individual’s social anxiety in the long term (Beck et al., 1985; Kazdin, 2001).

Fear of being negatively evaluated has also been associated with attempting to behave in such a way as to gain social approval (Watson & Friend, 1969). Unfortunately social phobics also tend to doubt their ability to behave in a way that will make others think highly of them. Leary (1983) found that the more an individual feared negative evaluation, the more inept they believed they came across during a conversation task. Rapee and Lim (1992) found that social phobics were more likely to rate their performance more poorly than it really was (as rated by an audience) if they had high fear of negative evaluation.

If treatment is successful, an individual’s core beliefs and thoughts should become more realistic. They will come to place less emphasis on what others think of them
and become more accurate in their interpretations of social situations. They will see situations as less threatening and consequently become less avoidant of previously feared situations. The emotional and physical symptoms of anxiety are also likely to reduce naturally when situations are perceived as less threatening. These core aspects, namely the cognitive, behavioural, and physiological/subjective experience of anxiety, are of central importance in this study and are measured separately.

The importance of measuring cognitive, physiological, and behavioural domains is not new. Lang (1968) proposed that fear is a response with three domains, namely “verbal (cognitive), overt-motor, and somatic. For the purposes of measurement, none of these systems is held to be primary or to hold a special controlling relationship to the others” (Lang, 1968; p90). Lang found that an individual’s response may vary among these three constructs, and questions whether in fact they belong to the same system since they correlate poorly with each other. Similarly, change does not necessarily occur equally across domains. For example, just because negative cognitions become less problematic during treatment, this does not mean to say avoidance and physiological responses are also necessarily reduced.

There are a number of ways to assess initial severity and treatment change in social phobia. Behavioural tests, thought listing procedures, self-monitoring forms, interviews, clinician rated scales, and client self-report scales are all ways of assessing severity (see the chapter on Social Phobia by Hofmann & Barlow in Barlow, 2002 for a review). In the present study, three core measures of social anxiety are used, one tapping a central cognitive aspect (fear of negative evaluation), another tapping self-
reported avoidance, and a third tapping self-reported subjective anxiety, with items referring largely to physiological reactions.

While it is not ideal to measure all these constructs using self-report questionnaires, there were few alternatives given the constraints of this study. Firstly, this study was designed to be non-experimental and not interfere with how the therapy groups would normally be run. Secondly, not all members of every therapy group were participants in this research. Thirdly, it was considered important to maintain a distinction between therapists and researchers so participants’ were less likely to fake reported improvement in order to please the therapists.

Since the researcher was not present during therapy, therapists could not be asked to change their therapy by adding in a controlled behavioural task. Similarly, participants could not be asked to participate in any research-assigned behavioural tasks as this would breach the integrity of the study by adding components which may have been therapeutic. In-session exposures could also not be utilised since not all members of each group participated in this research. For these reasons, taking direct behavioural and physiological measures became impractical, and therefore research had to rely on self-report measures.

**Other Mechanisms of Change in Social Phobia**

Attention and hypervigilance toward threat cues is an important maintaining factor in social phobia (see Bogels & Mansell, 2004, for a review). In anxiety provoking situations an individual with social phobia tends to be acutely aware of threatening
external stimuli, and internal anxiety related cues. Consequently they are less likely to notice cues which could lead them to a less threatening, and more realistic, interpretation of the social situation (Bogels & Mansell, 2004). In fact, excessive focus on either threatening internal or external cues may consume attentional resources to the point that actual performance is impaired (Bogels & Mansell, 2004). Effective therapy for social phobia needs to address hypervigilance to external and internal threat cues, and encourage greater focus on realistic assessment of the environment.

Hofmann (2000) recently summarised three factors thought to mediate treatment effects in social phobia. A mediating variable is one which, if changed during treatment, will result in overall improvement of the central problem at hand. The first factor Hofmann (2000) identified was an individual’s subjective estimate of the probability of a negative social event. The second was an individual’s confidence in their ability to perform in social situations. The third was an individual’s perceived emotional control. In the current study, two of the mechanisms of change Hofmann (2000) identified were measured – subjective estimates and self efficacy. These are discussed in greater depth below.

*Subjective Estimates of Probability and Cost*

When an individual perceives (social) danger in a situation, they are likely to experience anxiety. An individual is more likely to perceive threat and anxiety when their subjective estimations of the probability of a negative social event (e.g., feeling shy around others or doing something foolish in public) are high, and when they
overestimate the awfulness of such an event. This theory is supported by research such as that done by Foa, Franklin, Perry and Herbert (1996) who found that social phobics tend to overestimate the social probability and cost of negative social events compared to nonanxious controls.

Foa and Kozak (1986) hypothesise that when an individual is repeatedly exposed to previously avoided situations during treatment, over time they will come to revise downward their belief in the estimated likelihood of something going wrong socially. As treatment progresses, their anxiety reduces, and they come also to realise that in fact if something does go awry socially, the consequences are perhaps not as catastrophic as they had initially thought (see Hofmann, 2000, for a review). Foa et al., (1996) found that for generalised social phobics the estimated social cost of a situation (how bad or distressing it would be if something went wrong socially) was the best predictor of treatment outcome (Foa et al., 1996; Foa & Kozak, 1986; reviewed in Hofmann, 2004). Other researchers have found reductions in social cost to be no more important than reductions in probability estimates (McManus, Clark, & Hackmann, 2000).

Hofmann (2004) in an interesting study assigned 90 social phobics to one of three groups: Group CBT, group exposure therapy, or a waitlist condition. While both treatment groups improved significantly, Hofmann found that individuals receiving Group CBT, which more directly targeted distorted cognitions, experienced a greater reduction in their subjective social cost estimates, and that these individuals had longer lasting treatment gains when reassessed at six-month follow-up. Other researchers have found that reductions in probability and cost are associated with
improvement in social phobia symptoms (McManus et al., 2000). These findings provide support for the notion that subjective estimates of social probability and cost play an important role in mediating change in social phobia. This is in line with Beck’s (1976) hypothesis, summarised in McManus, Clark and Hackman (2000), that “perceived danger is substantially determined by the joint product of the subjective probability and cost of a feared event” (McManus et al., 2000; p201).

*Self Efficacy in Social Situations*

Social phobics wish others to think favourably of them as they fear being judged negatively. They believe others have high expectations of them which they need to achieve in order to make a good impression and avoid being negatively evaluated (Schlenker & Leary, 1982; Wallace & Alden, 1995). With these beliefs, anxiety is easily provoked when the individual believes what others expect is greater than their belief in their own ability to perform to those expectations and to make a good impression (Schlenker & Leary, 1982; Wallace & Alden, 1995).

Results such as those of Rappee and Lim (1992), where social phobics evaluated their own performance more critically than did observers, provide support for this theory. Further support comes from Stopa and Clark (1993) who found that while social phobics did in fact perform more poorly than controls, they were more critical in their own evaluations of themselves and concluded that their performance and coping ability was worse than it really was.
Importantly, after treatment, social phobics are reported to have significantly fewer negative self-focused thoughts (Hofmann et al., 2004). If treatment is able to increase a person’s self-efficacy, they are then less likely to be apprehensive about previously feared situations. This points to the value of assessing an individual’s confidence in their ability to cope in social situations as this appears to be a maintaining factor and a mechanism by which improvement may occur.

In this research a self-report questionnaire (Self Efficacy in Social Situations; Gaudiano & Herbert, 2003) was chosen which assess self efficacy in social situations. This scale taps three aspects of self efficacy described by the developers as “self efficacy for coping skills…, or the belief that one possesses the skills necessary to succeed in a feared situation (Bandura, 1991); self efficacy for cognitive control…, or the belief that one will be able to control bothersome thoughts and worries (Bandura, 1991; Clark & de Silva, 1985; Kent & Gibbons, 1987); and self efficacy for affective control… or the belief that one will be able to control one’s nervousness in a feared situation (Arch, 1992)” (Gaudiano & Herbert, 2003; p543).

1.4 Predictors of Change

Predicting outcome is important since it potentially allows therapists to focus on the most salient factors for the identification of individuals who most need of additional assistance in order to make substantial therapeutic gain. Furthermore, it points to the need for research to be carried out to determine how these predictors may be operating to influence outcome. Given therapist resources are limited in many services, being able to identify who is in most need of additional assistance can help
to allocate resources most efficiently such that all patients have a chance at a positive outcome.

Studies attempting to predict response to CBT for social phobia have struggled to find strong predictors of outcome. Chambless, Tran and Glass (1997) in a sample of 59 participants with social phobia treated with Group CBT found lower levels of depression, fewer avoidant personality traits and higher level of expectation predicted greater post-treatment response. Unfortunately no factor predicted response consistently across all their outcome measures. Of these predictors, depression was the strongest, however the authors acknowledge the likely collinearity between depression and avoidant personality, and found that the latter explained more variance than depression. They also found that the predictive value of expectation became non-significant when more predictors were added into the equation. In the same study, a reduction in negative thinking while performing a behavioural test was associated with significant improvement in self-report measures, but not independent observer measures (Chambless et al., 1997).

In a replication of the Chambless, Tran and Glass (1997) study, Scholing and Emmelkamp (1999) also found depression and clinician rated severity to be somewhat predictive of outcome. They did not measure expectation. These authors suggest further research could look at homework compliance, and whether non-responders could be predicted early on in treatment (Scholing & Emmelkamp, 1999).

In an interesting study, Safren and colleagues (1997) studied the impact of expectation during group CBT for social phobia in 113 participants. Greater pre-
treatment social phobia severity and depression was associated with lower expectations. When evaluating outcome, expectation best predicted clinician-rated severity of social phobia, accounting for 7% of the variance, even when pre-treatment severity was controlled for. Expectation was less predictive on other social phobia outcome measures, accounting for between 1% and 4% of the variance after pre-treatment scores were controlled for (Safren et al., 1997).

Rodebaugh et al (2004) cite two studies finding little relationship between homework compliance and outcome, and one study by Leung and Heimberg (1996) which found an interesting pattern. In this study, homework compliance in the early and late but not middle phase of social phobia therapy was associated with post-treatment improvement. More specifically, compliance with self monitoring homework tasks early in treatment and in-vivo exposure tasks and related cognitive work toward the end of treatment were both associated with a reduction in anxiety during social interactions post-treatment. Interestingly, overall homework compliance was unrelated to outcome.

Rodebaugh and colleagues summarise factors which are predictive of CBT response. These factors include expectation, homework compliance, avoidant personality, depression, and anger (Rodebaugh, Holaway et al., 2004). The current study looks at what pre-treatment information could predict outcome. Of interest is whether depression, expectation and homework compliance are able to predict outcome as other researchers have found, and also whether any other pre-treatment measures obtained hold any predictive value.
1.5 CBT: its Efficacy and Effectiveness

CBT is the most studied psychotherapy for Social Phobia and there is considerable support for its use. Roth and Fonagy (2005), Rodebaugh, Holaway and Heimberg (2004), and Butler, Chapman, Forman and Beck (2006) in their reviews of psychotherapy research evaluate the efficacy of CBT for Social Phobia. They examined the following meta-analyses and research articles examining the efficacy of CBT, how CBT compares with medication, and whether group or individual treatments are more efficacious, their articles can be consulted for a more in-depth review.

Using 42 outcome studies, Taylor carried out a meta-analysis comparing six conditions: cognitive therapy alone, exposure alone, a combination of cognitive and exposure therapy, and social skills training, as well as wait-list and placebo conditions. He found the combination of cognitive and behavioural therapy to have the most favourable outcomes with a mean pre- to post-treatment effect size of 1.06 (SD 0.34, based on 11 studies), as well as the greatest effect size when a three-month follow up period was considered (Taylor, 1996).

Chambless and Gillis (1993) reviewed ten outcome studies for social phobia (including CBT as well as other psychotherapies such as Anxiety Management Training, Rational-Emotive Therapy) and found a weighted average controlled effect size of 0.70 on the measure of Fear of Negative Evaluation. More recently Gould and colleagues (1997), in a widely cited meta-analysis of 24 studies, compared CBT to various medications for social phobia. They found the effect size for CBT to be larger
(0.74), but not significantly different, than that for pharmacological treatments (0.62), and that both had similar rates of drop-out (although they do acknowledge a low statistical power to pick up a difference if one existed). In terms of cost, results showed group CBT was the most cost effective alternative (Gould et al., 1997).

Group therapy has a number of advantages over individual therapy. Firstly it provides a number of in-session exposure opportunities such as speaking to a group which would not be possible during a one-on-one session between client and therapist. Secondly, group members have the opportunity to learn from one another. Thirdly it allows for a number of individuals to be treated at once, utilising therapist time more efficiently.

Investigation into the efficacy of group CBT has produced mixed results. In one study, 49 individuals with Social Phobia were treated with Group CBT which included both cognitive restructuring and exposure work. Results showed these individuals improved considerably more than those in a credible comparison control condition who received supportive psychotherapy with an education component. Both the CBT group and the comparison group improved pre- to post-treatment on almost all measures of anxiety and depression, however the Group CBT condition improved more on a number of measures (Heimberg, Dodge, Hope, Kennedy, & Zollo, 1990). Heimberg (1998) administered Group CBT for Social Phobia and found that 75% of treatment completers could be classified as responders. This dropped to 58% when the calculations were done on an intent-to-treat basis.
Scholing and Emmelkamp randomly assigned 73 patients with generalised social phobia to one of six conditions. Half the patients received individual treatment, the other half received group treatment. These groups were further broken down into three conditions each, one receiving exposure therapy only, another receiving cognitive therapy and then exposure therapy, and the other condition receiving cognitive and exposure therapy concurrently. Results comparing individual versus group delivery found that individual delivery was superior at reducing somatic symptoms, however delivery formats were equivalent in reducing avoidance and cognitive measures (Scholing & Emmelkamp, 1993). More recently Stangier, Heindenreich, Peitz, Lauterbach and Clark (2003) compared these delivery formats when administering a treatment based on Clark and Wells (1995) cognitive model and found greater response with individual delivery at both post-test and follow-up.

*The Distinction Between Efficacy and Effectiveness.*

While CBT has substantial support in efficacy studies, there has been debate in the literature as to the difference between what is efficacious, and what is effective. Efficacy studies characteristically have high internal validity (Westen, Novotny, & Thompson-Brenner, 2004), e.g., they use randomised controlled trials, control for as many variables as possible, constrain and standardise therapists by using treatment manuals, and commonly have strict exclusion criteria (Seligman, 1995; Westen & Bradley, 2005; Westen et al., 2004). While these studies have excellent internal validity, they have been criticised for a number of reasons, particularly their lack of ecological validity and generality.
Westen and colleagues (2005; 2004), while they recognise the value of randomised controlled trials (RCTs), raise a number of important limitations. Firstly, outcomes of RCTs cannot be assumed generalisable to non-research settings, with only a reputed 60% of therapists in the field achieving similar results to those reported in efficacy studies. RCTs place a high value on strong internal validity, but do so at the expense of external validity, making them excellent, robust studies, but which may not generalise to everyday practice. For example, exclusion criteria such as excluding participants with alcohol and drug addictions may make for a purer sample, however therapists in the field are faced with clients of complex presentations and multiple comorbidities, and are left to question how applicable RCTs are to their own client groups (Westen & Bradley, 2005; Westen et al., 2004).

Secondly, they point out that control conditions in most studies are designed to be inactive, and offer little in the way of credibility, hope and other non-specific factors which are important in producing therapeutic gains. Pitting such a condition against an active treatment which has the support of the therapists involved provides additional advantage to the active condition (Westen & Bradley, 2005; Westen et al., 2004).

Effectiveness studies on the other hand aim for high external validity, and test whether a therapy performs well in naturalistic settings (Seligman, 1995). By the very nature of these studies, variables are less able to be controlled, but the results of such studies make them especially useful for clinicians. Seligman goes as far as to state that “The efficacy study is the wrong method for empirically validating
psychotherapy as it is actually done, because it omits too many crucial elements of what is done in the field” (Seligman, 1995; p966).

*The Effectiveness of CBT for Social Phobia.*

Two research studies intended to examine the effectiveness of treatments in regular practice settings have been carried out (Gaston, Abbott, Rapee, & Neary, 2006; Lincoln et al., 2003). In a large study, Lincoln and colleagues (2003) tested the effectiveness of individualised CBT on 217 clients with social phobia (90% having generalised social phobia) in a naturalistic setting. The only exclusion criterion was if a participant was deemed unfit on medical grounds to carry out exposures. Treatments began with initial assessments and sessions designed to increase motivation. After this, intensive exposure and cognitive work was provided within the first week of treatment, after which time clients entered a ‘self-control’ phase of treatment where they were encouraged to continue exposures and cognitive restructuring in their day-to-day lives for the following six weeks (Lincoln et al., 2003).

Between pre-treatment and six-month follow-up, completers (n=175) showed significant change on self-report measures. Significant change was also found when an intent to-treat approach was used (the researchers assumed no change had occurred for non-completers). Results showed pre-treatment to six-week follow-up effect sizes of 0.71 to 0.88 for social phobia measures (and 0.58 to 0.68 for depression) and 57% of the sample were considered to be “more likely to be drawn from a healthy sample” (Lincoln et al., 2003, p1263)
Notably, the effect sizes in this study are similar to those found in efficacy studies. The researchers also point out that their effect sizes did not increase when they ran the analyses using the strict exclusion criteria of many RCTs. Overall they conclude that “individual cognitive behavioural therapy for social phobia can be transported from research settings to the field of mental health” (Lincoln et al., 2003, p1251), which is a highly encouraging conclusion.

In a very recent benchmarking study Gaston and colleagues compared a ten-session group CBT programmed for social phobia delivered in a private practice compared to delivery in a research unit (Gaston et al., 2006). Treatment was delivered over 12-weeks with greater time periods between the final sessions. Both settings followed the same manualised treatment. One hundred and two participants with social phobia were involved in this study (approximately half from each setting). Over 90% from each setting were of the generalised subtype. Exclusion criteria included suicidality, self-harm, or the presence of psychosis. Results showed that both the research unit and private practice groups improved significantly, with the research unit producing effect sizes between 1.2 to 1.3, and the private practice effect sizes ranging from 1.0 to 1.2. There were no statistically significant differences between the two settings (Gaston et al., 2006). Interestingly they found the research unit participants to be more severe and have more comorbidities. The researchers cite other articles supporting this pattern which goes against the view that RCTs typically have purer less complex participants (Gaston et al., 2006).

The Gaston study looked at whether a manualised Empirically Supported Therapy (EST) used in a research facility shows similar effectiveness when followed in the
same way by private practitioners. They found no significant differences between settings, and concluded that it is possible for practitioners in naturalistic settings to implement ESTs as successfully as therapists in research based settings. What this research does not tell us is whether what practitioners in a naturalistic setting do, working without the restriction of a treatment manual, is effective. In other words, are the treatment resources therapists in the field source and use as a guide still effective, even when not rigidly adhered to as in many randomized controlled trails? Also of note in Gaston et al., (2006) is that one of the two private practitioners was also a therapist in the research unit, likely reducing the differences between the settings. While the Gaston study showed that it is possible for practitioners to successfully implement an EST and achieve similar results to that in the efficacy literature, it does not mean that this is currently occurring in all regular clinical settings.

This study aims to evaluate the effectiveness of core Group CBT techniques sourced from available local resources and implemented by therapists using their own initiative in a routine clinical setting (an outpatient anxiety disorders service of a public health provider). The current study differs substantially from the two naturalistic studies described above in a number of ways. It differs from Lincoln et al (2003) in that the focus of this study is group CBT treatment, rather than individualised CBT treatment. It differs from Gaston et al (2006) in that therapists were not required to follow a manual provided by the researchers. Rather, the current study looks at whether an existing clinic, using their own self-sourced guidelines, obtain equivalent effect sizes to those found in the efficacy literature. Finally it differs in that the treatments are provided by an outpatient mental health facility specialising in anxiety disorders, in which therapists come from a variety of backgrounds.
CHAPTER TWO

METHODS

2.1 PARTICIPANTS AND RECRUITMENT

Participants were recruited by mailing letters of invitation and information sheets regarding this research to individuals enrolled in three different social phobia treatment groups offered by the ADS. Those who chose to participate completed a consent form. Twenty-one individuals agreed to participate in this research and received a $10 petrol voucher for their effort (See Appendix A for copies of documents including questionnaires). Of the 21, two dropped out of the study. The only exclusion criterion was an inability to read written English, and one individual meeting this criterion consequently was excluded from the analysis at the completion of the data collection phase. The final sample consisted of 18 participants, ten males and eight females, ranging in age from 21-56, with over half being aged in their twenties. The sample’s age distribution had a positive skew with ten participants being in their twenties, four in their thirties, two in their forties and two in their fifties. The ethnicity of all participants was New Zealand European, with only one participant identifying as both New Zealand European and Maori.

The ADS have a policy of formally assessing social anxiety using clinical interviews alongside self-report scales such as the Beck Anxiety Inventory and the Social Phobia
Anxiety Inventory. All individuals in the sample had a formal diagnosis of Social Phobia, and were enrolled in a social phobia group treatment programme.

Ethical approval was obtained for this research from the New Zealand Upper South A Regional Ethics Committee. There was consultation with Nga Ratonga Hauora Maori (Maori Health Services) to ensure that this research was consistent with the provisions of the Treaty of Waitangi.

2.2 Measures

Only questionnaires available in the public domain were used. Given that participants were required to complete a large number of self-report scales at five points in time, briefer scales were preferred to longer versions to maximise the trade-off between reliability and patient motivation, patience, and sustained participation. Self-report measures were preferred in this study for the reasons outlined in the Introduction, and, as noted, behavioural and physiological measures were impractical since they would have disrupted the normal course of the therapy programmes.

As described in the Introduction, a number of core issues are of interest in this study, namely, what mechanisms of change are operating, what factors are able to predict outcome, and the effectiveness of core CBT techniques when used in a routine clinical setting. To achieve this, the following constructs were measured using the psychometric self-report scales described in this section.
Change Mechanisms of Interest

• Core Aspects of Social Phobia measured:
  o Cognitive/Fear of Negative Evaluation
  o Avoidance
  o Physiological/subjective experience of Anxiety

• Other Mechanisms of Change
  o Subjective Estimates of Probability and Cost
  o Self Efficacy in Social Situations

• Potential Predictors of Outcome
  o Depression
  o Expectation
  o Homework Compliance
  o Attendance
  o Pre-treatment Severity of Core Social Phobia Measures
  o Subjective Estimates
  o Self Efficacy in Social Situations
  o Demographic Variables

2.2.1 Demographic and Personal Information

Demographic Information was collected for each participant, such as gender, ethnicity, and age. Information regarding medications, changes in medications, and any additional therapy received during the course of the group (and if so, its relevance to social phobia) was sought by way of a questionnaire. Attendance at a Breathing Retraining Workshop held by the Anxiety Disorders Service, independent of, and prior to, the standard group treatment, was recorded. In addition, therapists were asked to record attendance for each participant. An overall Attendance score was calculated as a proportion, using the number of hours present divided by the total number of hours that course ran for. Since participants were recruited from groups of varying lengths (and different therapists) group length was also recorded.
2.2.2 Brief Version of the Fear of Negative Evaluation Scale (BFNE)

The BFNE (Leary, 1983) is a short form of the well known Fear of Negative Evaluation Scale (FNE) developed by Watson and Friend (1969). The BFNE is a 12 item questionnaire measuring people’s concerns about being judged by others. Unlike the FNE which is comprised of 30 true or false items, the BFNE includes only 12 of these items, but requires responses on a 5 point Likert scale (1 = not at all characteristic of me, 5 = extremely characteristic of me), and a total score is obtained by reverse scoring items 2, 4, 7, and 10, and then summing all responses. The scale has a range of 12-60, with higher scores indicating greater concern about being negatively judged by others. The BFNE was preferable to the full FNE in this research not only because of its brevity but because its items are self-reports of cognitive experiences, whereas the full FNE includes some items pertaining to a physiological response of being tense and jittery.

Leary (1983) administered the full FNE to 150 undergraduate volunteers, and using only the 12 items which comprise the BFNE reported a mean of 35.7 (SD = 8.10). After the initial administration, the BFNE items alone were administered twice at four week intervals, which resulted in a test-retest reliability coefficient of 0.75, and Chronbach’s alpha = 0.90. The BFNE performed well when compared with the original FNE which has a reliability coefficient of 0.92, and a test-retest reliability coefficient of 0.68. Importantly, the BFNE correlates 0.96 with the FNE, making it an excellent measure for social anxiety research.
In a recent study, a slightly modified BFNE was administered to 82 individuals with social phobia (Collins, Westra, Dozois, & Stewart, 2005). The modifications consisted of changing reverse worded items to be positively worded, as recent research indicates this improves the understandability and validity of the BFNE. Some investigators argue that the BFNE actually has two factors (consisting of straightforwardly-worded items and reverse-worded items) and advocate the use of only the straightforwardly worded items (Duke, Krishnan, Faith, & Storch, 2006; Rodebaugh, Woods et al., 2004; Woods & Rodebaugh, 2005). While this may be so, the standard BFNE (Leary, 1983) was used in the current study since greater clinical and normative data are available, allowing for comparisons to be made. Collins and colleagues found a mean BFNE score of 29.2 (SD = 8.2) for their non-anxious community sample (N = 30). For their socially phobic respondents, the investigators found a mean of 51.5 (SD = 7.3) before CBT treatment, and a mean of 39.1 (SD of 11.7) post-treatment, which was a statistically significant drop (p<0.001, effect size of 0.63) (Collins et al., 2005).

In another study of 165 individuals with social phobia and 32 controls, the investigators found a mean pre-treatment BFNE score of 46.91 (SD = 9.27) for those with social phobia, and 26.81 (SD = 4.78) for controls (Weeks et al., 2005). The lower BFNE pre-treatment means for social phobics in Weeks et al., (2005) compared to the means found by (Collins et al., 2005) may be due to the more stringent exclusion criteria in the Weeks et al., study, such as those who were significantly depressed, had schizophrenia, or another principal diagnosis (Weeks et al., 2005). In a normative study, Duke (2006) administered the BFNE to a non-student, non-clinical community sample of 355 individuals who obtained a mean of 32.3 (SD = 7.34, Range = 13-60).
2.2.3 Fear Questionnaire - Social Phobia Subscale (FQ-SPS)

The Fear Questionnaire (Marks & Mathews, 1979) is laid out in two sections. The first section asks people to respond to 17 items assessing avoidance in three domains: agoraphobia, blood-injury, and social situations (8 items each plus one item which does not contribute to the total FQ score). These items are responded to on a 9 point likert scale (0 = would not avoid it, 8 = always avoid it) and items are summed according to subscale to compute subtotals, which when added together provide the FQ total. The second section gathers information regarding how troublesome certain problems are to the individual (e.g., feeling depressed, irritable, tense and so on). Responses to the items from the second section can be summed to obtain a total for that section.

In this research, only the 5 social phobia subscale items from the short form were administered (Items 3, 7, 9, 11 and 14). The possible minimum score for this subscale is 0, and the maximum 40, with a high score indicating greater avoidance behaviour.

The developers found the FQ-SPS had a one week test-retest reliability of 0.82 (Marks & Mathews, 1979). Investigators have confirmed three factors within the scale which correspond to the three subscales the scale is divided into (Oei, Moylan, & Evans, 1991). The FQ-SPS has good internal consistency (Chronbach’s alpha = 0.74) and is a valid and reliable measure of social anxiety (Oei et al., 1991).
When the developers administered the FQ-SPS to 20 phobic patients, they found a mean of 15 (SD = 8.5) (Marks & Mathews, 1979). They also report administering the scale to another 26 phobic participants who suffered from either agoraphobia, social phobia, or another phobia, and found the scale to be sensitive to change in treatment (in-vivo exposure). The sensitivity of the FQ-SPS was demonstrated by all participants’ scores on this subscale dropping, with the mean changing from 16 to 13, which was statistically significant. The FQ-SPS scores of just the social phobics (N = 8) in this sample dropped from a mean of 21.5 (SD = 8.2) to 15.8 (SD = 10.8) (Marks & Mathews, 1979). In another study using a sample of 35 Australian patients with social phobia, males (n=10) scored a mean of 21.40 (SD = 5.44) on the FQ-SPS, and females a mean of 15.94 (SD = 8.69) (Oei et al., 1991). In a community sample using 242 possible respondents, participants under 45 years of age scored a mean of 11.4 (SD = 6.9) while participants aged 45 or older scored a mean of 9.3 (SD = 6.2), a statistically significant difference (Gillis, Haaga, & Ford, 1995). In a very recent study evaluating the BFNE, the FQ-SPS was also administered to 165 individuals with social phobia. While there were strict exclusion criteria that need to be kept in mind, the mean FQ-SPS score for phobic patients was 22.36 (SD = 7.87) (Weeks et al., 2005).

There is some evidence to suggest that small to moderate drops in the FQ can be expected during periods even with no treatment (Arrindell, Emmelkamp, & Van der Ende, 1984). The developers note that despite the scale’s good psychometric properties, this self-report measures is not an ideal way of measuring actual avoidance (Marks & Mathews, 1979). Preferable are behavioural measures or a behavioural diary of avoidance, however this option was unrealistic in this research.
2.2.4 Depression Anxiety Stress Scale 21

The Depression Anxiety and Stress Scale (DASS) (Lovibond & Lovibond, 1995) is a self report questionnaire composed of three component scales which tap depression, anxiety, and stress. In this thesis, the physiological and subjective sensations of anxiety were considered a central concept. The DASS21 – Anxiety scale (ANX) was used for this purpose. Its items contain questions such as “I was aware of dryness in my mouth; I experienced trembling; I felt scared without any good reason”. The DASS21-Depression Scale (DEPR) was also considered important to measure given previous studies have found it to be a predictor of outcome.

A short version of the DASS, the DASS21, was used in this study, and has half the number of items that the 42-item full length DASS has. Participants respond to each item on a four point Likert scale (0 = did not apply to me at all, 3 = Applied to me very much, or most of the time) based on their experience of the past week. The subscale totals are found by summing the items from that scale then doubling them to be equivalent to that of the long form (range of 0-42). Subscales are interpreted individually in the same way the full-length DASS would be interpreted. A total score may also be found by summing the three subscales (range 0-126). Henry and Crawford (2005) investigated the construct validity of the DASS21 using a large nonclinical British sample, and supported its validity as a measure. In terms of reliability, the DASS long and short form both have good reliability. Test-retest alpha values for the DASS21 being 0.81, 0.73, and 0.81 for the depression, anxiety and stress scales respectively (Lovibond & Lovibond, 1995).
The DASS anxiety subscale correlates highly with the Beck Anxiety Inventory (BAI) (0.81), and the DASS depression subscale also correlates less, but still strongly (0.74) with the Beck Depression Inventory (BDI) (Lovibond & Lovibond, 1995). The DASS developers suggest the reason for the lower correlation for depression is due to the BDI including items tapping somatic complaints which are less related to depression (Lovibond & Lovibond, 1995). A study investigating the psychometric properties of the DASS (original version) and DASS21 (brief version) found the DASS21 depression subscale correlated 0.79 with the BDI, and the DASS21 anxiety subscale to correlate 0.85 with the BAI (Antony, Bieling, Cox, Enns, & Swinson, 1998).

While the DASS is not a diagnostic tool, cutoff scores are provided to indicate the severity of depression, anxiety, and stress experienced by samples with clinical disturbances relative to nonclinical respondents. Normative data and clinical cutoff scores from the DASS manual are presented below.

**Table 1**
*Clinical Severity Ratings for the DASS (Reproduced from Lovibond & Lovibond, 1995)*

<table>
<thead>
<tr>
<th>Severity</th>
<th>Depression</th>
<th>Anxiety</th>
<th>Stress</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td>0-9</td>
<td>0-7</td>
<td>0-14</td>
</tr>
<tr>
<td>Mild</td>
<td>10-13</td>
<td>8-9</td>
<td>15-18</td>
</tr>
<tr>
<td>Moderate</td>
<td>14-20</td>
<td>10-14</td>
<td>19-25</td>
</tr>
<tr>
<td>Severe</td>
<td>21-27</td>
<td>15-19</td>
<td>26-33</td>
</tr>
<tr>
<td>Extremely Severe</td>
<td>28+</td>
<td>20+</td>
<td>34+</td>
</tr>
</tbody>
</table>
Brown, Chorpita, Korotitsch and Barlow (1997) investigated the psychometric properties and norms of the DASS in various anxiety disorders. They found the DASS to have excellent internal consistency. For respondents with social phobia (N = 59), Chronbach’s alpha was 0.95 for depression, 0.89 for anxiety, and 0.94 for stress. The authors also found further strong evidence for suggested factor structures (Brown et al., 1997). Means and standard deviations on each subscale for the DASS and DASS21 for individuals with social phobia, are presented in Table 2.

<table>
<thead>
<tr>
<th>Sample</th>
<th>Depression</th>
<th>Anxiety</th>
<th>Stress</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>DASS (n=59)</td>
<td>13.17</td>
<td>10.30</td>
<td>11.66</td>
</tr>
<tr>
<td>(Brown et al., 1997)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DASS (n=74)</td>
<td>13.20</td>
<td>8.94</td>
<td>11.22</td>
</tr>
<tr>
<td>DASS-21 (n=74)</td>
<td>13.19</td>
<td>9.28</td>
<td>12.22</td>
</tr>
<tr>
<td>(Antony et al., 1998)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2.2.5 Probability Cost Questionnaire (PCQ)

The PCQ (Foa et al., 1996) consists of two 40 item questionnaires. Half of the items relate to negative social events (e.g., being ignored by someone you know, feeling shy around others), the others to negative non-social events (e.g., catching the flu, being mugged but not seriously hurt). The first questionnaire asks participants to rate the probability that these negative social and non-social events will occur (Probability estimates: SOC PROB and NONSOC PROB). The second questionnaire has participants rate the cost, that is, how “bad or distressing” it would be if these events
actually happened (Cost estimates: SOC COST and NONSOC COST). Each item is rated on a 9 point scale (0 = not at all, 8 = extremely). Consequently the PCQ has two questionnaires, each with two subscales, yielding four subscale scores for each respondent. The four subscales are computed by averaging the responses that comprise the subscale. Each subscale therefore has a range of 0-8, a high score indicating a greater subjective probability or cost (Foa et al., 1996).

The PCQ has been found to have high internal consistency in all four subscales, with Chronbach’s alphas of 0.86-0.97 (Foa et al., 1996). The PCQ also has satisfactory test-retest reliability as evidenced by non-anxious controls scoring similarly when tested twice within a 14 week period (Foa et al., 1996).

The developers of this scale administered the PCQ to non-anxious controls (NACs) as well as individuals with generalised social phobia (GSP) at both pre- and post-treatment. The table below presents an extract from their article which outlines their findings (Foa et al., 1996).

In the current research, the titles of the questionnaire and subscales were omitted, and some words and some spellings were changed in order to be culturally relevant (e.g., IRS to tax department, checking account to cheque account).
Table 3

*GSP and NAC Groups’ Probability and Cost Estimates, Effect Sizes, and Significance Levels for Post Hoc Analyses (Reproduced from Foa et al., 1996)*.

<table>
<thead>
<tr>
<th>Ratings and group</th>
<th>Pre</th>
<th>Post</th>
<th>Pre-post analyses</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>Probability</td>
<td>4.1</td>
<td>1.5</td>
<td>2.8</td>
</tr>
<tr>
<td>GSP-S</td>
<td>1.8</td>
<td>1.2</td>
<td>1.5</td>
</tr>
<tr>
<td>GSP-NS</td>
<td>1.5</td>
<td>0.8</td>
<td>1.6</td>
</tr>
<tr>
<td>NAC-S</td>
<td>1.9</td>
<td>0.5</td>
<td>1.7</td>
</tr>
<tr>
<td>NAC-NS</td>
<td>5.6</td>
<td>1.2</td>
<td>3.4</td>
</tr>
<tr>
<td>Cost</td>
<td>4.7</td>
<td>1.4</td>
<td>3.7</td>
</tr>
<tr>
<td>GSP-S</td>
<td>2.2</td>
<td>1.1</td>
<td>2.2</td>
</tr>
<tr>
<td>GSP-NS</td>
<td>3.8</td>
<td>0.9</td>
<td>3.8</td>
</tr>
</tbody>
</table>

Note: Values with same subscripts do not differ significantly (p<.05). GSP=generalised social phobia; S=social events; NS=non-social events; NAC=nonanxious controls; pre=pre-treatment; post=post-treatment. **p<.01, ***p<.001

### 2.2.6 Self Efficacy in Social Situations (SESS)

The SESS (Gaudiano & Herbert, 2003) is a recently developed nine-item scale measuring self efficacy in social situations. Each item in the SESS is responded to on a 10 point likert scale (1 = not at all, 10 = very). Items 2, 5, and 8 are reverse scored, and the total is obtained by summing all item responses. The SESS has a range of 9-90, with higher scores indicating greater self efficacy (Gaudiano & Herbert, 2003).

Factor analyses by developers resulted in three separate factors which the developers labelled 1) Cognitive-Affective control, 2) Social Coping Skills, and 3) Subjective Distress, however the SESS is not designed to be separated into subscales, rather it is to be interpreted as a single total score (Gaudiano & Herbert, 2003). Internal
consistency calculations yielded a Chronbach’s alpha of 0.81 for the entire scale (Gaudiano & Herbert, 2003). Interestingly, Gaudino and Herbert found that a change in SESS scores and in the BFNE significantly predicted change in the Social Phobia Anxiety Inventory (Social Phobia Subscale). Even when the BFNE was controlled for, the significant predictive result was still found (Gaudiano & Herbert, 2003).

Gaudiano and Herbert (2003) administered the SESS to 131 individuals with social phobia, and reported a mean score of 34.58 (SD = 10.43). When the SESS was administered pre- and post-treatment, the developers found a mean pre-treatment score of 34.28 (SD = 9.83) which increased to 47.67 (SD = 15.71) by post-treatment, which was a statistically significant increase (Gaudiano & Herbert, 2003).

2.2.7 Credibility/Expectancy Questionnaire (CEQ)

The CEQ (Devilly & Borkovec, 2000) is a 6 item scale has patients rate the credibility of the treatment rationale and also measures their expectancies about treatment. There are two sets within the questionnaire, items 1-4 (Set I) ask the patient about what they think, while items 5-6 (Set II) asks about what they feel. Despite this demarcation, it has been found that in fact items 1-3 from Set I load onto the Credibility factor, while item 4 from Set I and both items from Set II load onto the Expectancy factor (Devilly & Borkovec, 2000).

A complication when scoring the scale is that it combines two scales, a 9 point Likert Scale (1 = not at all 9 = very), and an II point scale with which the patient selects from one of 11 percentage ratings: 0%, 10%, 20% and so on up to a maximum of 100%. To
cope with these different scales, the developers recommend each item is standardised and a composite created for each of the credibility and expectancy factors (Devilly & Borkovec, 2000). In this research, the 11 point scales were converted to 9 point scales using the formula: 1+(percentage score×8). Factor totals were derived from summing the items from each factor. Consequently each factor has a range of 3-27, with higher scores indicating greater expectations and credibility ratings of the treatment.

The CEQ has been used by the developers with Vietnam veterans and their partners in a course addressing lifestyle management, as well as in GAD and PTSD samples as summarised in Devilly and Borkovec (2000). The CEQ is perhaps the only credibility/expectancy questionnaire which has undergone thorough psychometric analysis (Devilly & Borkovec, 2000), and has been found to have good psychometric properties, specifically high internal validity and good test-retest reliability (Devilly & Borkovec, 2000). The CEQ developers report internal consistency data for the Expectancy factor (standardised $\alpha$ of 0.79-0.90), the Credibility factor (Chronbach’s $\alpha$ of 0.81-0.86), and the scale as a whole (standardised $\alpha$ of 0.84-0.85). One week test re-test reliability was 0.82 for the expectancy scale, and 0.75 for the credibility scale (Devilly & Borkovec, 2000).

Devilly & Borkovec (2000) administered the questionnaire to 126 male Vietnam veterans who took part in a brief counselling programme. The mean factor totals were 19.28 (credibility) and 15.95 (expectancy) (Devilly & Borkovec, 2000). With 69 GAD patients who received combinations of cognitive behavioural therapy
techniques, Devilly & Borkovec (2000) found a mean credibility factor total of 22.83 and 19.42 for the expectancy factor\(^1\) (Devilly & Borkovec, 2000).

The CEQ was adapted for use in this study in a number of ways. Firstly, the instructions in the original read “We do not want your therapist to ever see these ratings, so please keep the sheet covered when you are done” was deleted. This was because the researcher who administered the questionnaires was clearly separate from the actual therapy and questionnaires where given back to the researcher, not the therapists. In addition, after the course was completed, therapists had access to these questionnaires, therefore this statement would have been misleading. The other changes were in replacing the word “trauma” with “anxiety” to be in line with the patients receiving treatment for social phobia, and future tenses (e.g., “…how successfully do you think this treatment will be in reducing…”) was changed to past tense (e.g., “…how successfully do you think this treatment has been in reducing…”) in the final (post-treatment) administration.

### 2.2.8 Homework Compliance Scale (HCS)

The clinician-rated Homework Compliance Scale (HCS) (Primakoff, Epstein, & Covi, 1986) was used in the current research. To assess the degree of homework compliance, therapists rate each participant on a six-point scale at the end of every session (1 = The patient did not attempt the assigned homework, 6 = The patient did more of the assigned homework than was requested) (Primakoff et al., 1986). It is important to note that this measure does not take into account the quality of the

\(^1\)Note: The original article provides means and standard deviations for each of the six items. These means reported above have been computed based on the data from the article, and using the standardisation formula which was used in this thesis research.
homework, accuracy of therapist or client in reporting about homework, or therapist competence. It also does not take into account the nature of the homework (e.g., assigned readings or exposure tasks). These factors have been identified as important when assessing homework (Kazantzis, Deane, Ronan, & L'Abate, 2005; Kazantzis, Ronan, & Deane, 2001). An average homework compliance score was obtained by averaging scores from sessions the participant attended. If a participant was absent, a homework score was therefore not recorded and could not be included in the average. In this way homework scores were not confounded by attendance.

In one study of 53 individuals with social phobia, the mean homework compliance scale score was 4.64 (SD = 0.74) in the early stage of therapy. For those who remained in therapy, the post-treatment HCS score had lowered to a mean of 4.25 (SD = 1.22) (Woody & Adessky, 2002). Unfortunately no psychometric data are available on this scale, although it has been found to have good interrater reliability (r = 0.88) (Woody & Adessky, 2002).

2.2.9 Curriculum

The social phobia groups have treatment manuals available to assist therapists run the groups, although the ADS provide these more as a guide than a rigid curriculum, and therapists follow the manuals to varying degrees. In this research, some gauge of the equivalence of curriculum covered was necessary.

To achieve this, the ADS treatment guidelines for social phobia group therapy were reviewed and major components of the treatment curriculum were identified. These
components were listed and after each session therapists were asked to estimate the percentage of each session devoted to those aspects of the curriculum. While this is a rather crude measure, it was at least a rough gauge as to the equivalence of content. The alternatives provided were: Explanation of rationale/treatment model, Breathing retraining, Social skills work, Cognitive restructuring, Attention training, Safety behaviour work, Exposure work, Avoidance work, Overlearning tasks, and Relapse prevention. An ‘Other’ section was also included where therapists were able to add additional curriculum which the alternatives did not already cover. The percentage of total treatment time spent on each component was calculated and is displayed below.

**Table 4**
*Percentage of Total Treatment Time Spent on Each Component of Therapy*

<table>
<thead>
<tr>
<th>Component of Therapy</th>
<th>Therapy Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Group 1 (%)</td>
</tr>
<tr>
<td>Explanation of rationale</td>
<td>22</td>
</tr>
<tr>
<td>Breathing retraining</td>
<td>7</td>
</tr>
<tr>
<td>Social skills work</td>
<td>4</td>
</tr>
<tr>
<td>Cognitive restructuring</td>
<td>17</td>
</tr>
<tr>
<td>Attention training</td>
<td>0</td>
</tr>
<tr>
<td>Safety behaviour work</td>
<td>5</td>
</tr>
<tr>
<td>Exposure work</td>
<td>35</td>
</tr>
<tr>
<td>Avoidance work</td>
<td>8</td>
</tr>
<tr>
<td>Overlearning tasks</td>
<td>2</td>
</tr>
<tr>
<td>Relapse prevention</td>
<td>0</td>
</tr>
<tr>
<td>‘Other’</td>
<td>0</td>
</tr>
</tbody>
</table>
Questionnaires were administered pre- and post- treatment and at various times during treatment, as shown in Table 5 below. Due to the varying lengths of treatment for each group, the pre-, mid-, and post- measures (i.e., waves 1, 3, and 5) corresponded to the beginning, middle, and end of that specific group. The other administrations (maximum of two) were taken at other times during treatment. The timing decisions were made in order to maximise points where there were equivalent number of hours of treatment across groups, and at pre-, mid-, and post- occasions.

Wave 1 questionnaires were administered before any group treatment had occurred, with the exception of the CEQ which was administered after the first session. This was because participants were asked to rate the credibility of the treatment rationale and their expectations of change, which requires information covered during the first session. For Waves 2, 3, 4, and 5, all questionnaires were administered after the session was completed.

**Group 1.**
This group experienced one four-hour session per week, for nine weeks. The total duration of the treatment was nine weeks with a total contact time of 36 hours. Four participants belonged to this group. All five waves of measures were administered.

**Group 2.**
This group experienced nine sessions spanning three weeks. The first four sessions were held on consecutive days and lasted approximately seven hours each. Following
that, participants had nine days of no therapy, then five consecutive days of approximately seven hours per day (with the exception of the final session which lasted for 3 ¼ hours). Total contact time was 58.75 hours, and all five waves of assessment were administered. Six participants belonged to this group.

Group 3.

This group had seven sessions over five weeks. The first three sessions were held on consecutive days, then once per week for the following four sessions. Each session lasted 6.5 hours, with the exception of the final session which lasted 5 ¼ hours. Total contact time was 44.75 hours, and a total of four waves were administered. Wave two was omitted since it did not make sense to administer the questionnaire again within twenty four hours of another administration. Nine participants belonged to this group.

Participants were given the option of receiving written feedback at the completion of their treatment which included a summary of their progress as they progressed through therapy. This was given to the ADS who took responsibility for relaying the feedback. Participants were also given the option of receiving a summary of the results of the research as a whole.
Table 5
Timing of Measurements

<table>
<thead>
<tr>
<th>Session</th>
<th>Group 1 Accumulated hours</th>
<th>Group 2 Accumulated hours</th>
<th>Group 3 Accumulated hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Wave 1 Administration (pre)</td>
<td>Wave 1 Administration (pre)</td>
<td>Wave 1 Administration (pre)</td>
</tr>
<tr>
<td>1</td>
<td>4</td>
<td>6.5</td>
<td>6.5</td>
</tr>
<tr>
<td>2</td>
<td>8</td>
<td>13.5</td>
<td>13</td>
</tr>
<tr>
<td>3</td>
<td>12</td>
<td>20.5</td>
<td>19.5</td>
</tr>
<tr>
<td></td>
<td>Wave 2 Administration</td>
<td>Wave 2 Administration[4]</td>
<td>Wave 3 Administration (mid)[3,4]</td>
</tr>
<tr>
<td>4</td>
<td>16</td>
<td>27.5</td>
<td>26</td>
</tr>
<tr>
<td>5</td>
<td>20</td>
<td>34.5</td>
<td>32.5</td>
</tr>
<tr>
<td>6</td>
<td>24</td>
<td>41.5</td>
<td>39</td>
</tr>
<tr>
<td>7</td>
<td>28</td>
<td>48.5</td>
<td>44.75</td>
</tr>
<tr>
<td>8</td>
<td>32</td>
<td>55.5</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>36</td>
<td>58.75</td>
<td></td>
</tr>
</tbody>
</table>

Note:
-Wave 1 CEQ measures were taken at the end of Session One. This was appropriate since participants are asked to rate the credibility of treatment and their expectations of the treatment outlined in Session One.
-With administrations at these times, the following comparisons were possible (superscripts relate to measurement points indicated in the table):
  - Pre-treatment[1], mid-way through each group[2], and at post-treatment[3].
  - Equivalent hours of contact time: 0 hours[1], approximately 20 hours[4], and approximately 36 hours[5] (which is also the length of the shortest group).

2.4 HANDLING OF MISSING DATA.

In cases where an entire questionnaire was missed by the participant, or they had clearly misunderstood the scale, that questionnaire was excluded. If a participant missed only one item on a questionnaire, that response was estimated based on the
participant’s other item responses from that scale. An intent-to-treat approach was used in all analyses, therefore one individual who attended only one session was included in analyses. However the data from the two individuals who withdrew themselves from the study and the one exclusion were not included. This was comparable with drop out rates of approximately 10% reported in CBT treatments (Gould et al., 1997). Pairwise deletions were used in all analyses unless otherwise noted.
CHAPTER THREE

RESULTS

3.1 EXPLORATORY ANALYSIS

In this chapter, variables are distinguished by capitalising the first letter of that word. For example, “…reductions in Avoidance” indicates a reduction in the Avoidance measure of this thesis i.e., the FQ-SPS. Where this is unclear of cumbersome, the abbreviation is noted. There are three Core Measures of Social Phobia in this thesis. The first is the Brief Version of the Fear of Negative Evaluation Scale (BFNE). The second is self-reported Avoidance, as measured by the Social Phobia Subscale of the Fear Questionnaires (FQ-SPS). The third is subjective Anxiety which is measured using the Anxiety subscale on the DASS21 (ANX). These three variables are referred to in this thesis as the “Core Measures”. Secondary measures of particular interest included the Depression subscale on the DASS21 (DEPR), Probability and Cost estimates of negative social events (SOC PROB and SOC COST), Self Efficacy in social situations (SESS), Credibility and Expectancy ratings of treatment (CRED and EXPECT), and clinician-rated Homework and Attendance scores (HOMEWORK and ATTENDANCE).

Data analysis began by examining pre-treatment means, standard deviations and distributions of all variables. This was done for the whole sample and for each treatment group separately. Equivalence of pre-treatment symptom severity between
participants in terms of gender, age, membership of treatment group, presence or absence of medications pre-treatment, and pre-treatment attendance at a Breathing Retraining workshop was analysed, using independent means t-tests (by group), or one-way Analysis of Variance (one-way ANOVAs) for each of the Core Measures, plus Depression. Because of the number of statistical tests done, alpha was set conservatively, at \( p < .01 \). Pre-treatment severity of symptoms reported in this sample was compared to that reported for social phobics in the literature. The difference between the mean of the entire ADS sample’s pre-treatment scores, and the means reported in the literature, were compared using the standard deviation of the literature means as a yardstick.

*Means, Standard Deviations, and Distributions of Pre-treatment Scores.*

Pre-treatment means and standard deviations for each group as well as the entire sample, are reported in Table 6.
Table 6
Means and Standard Deviations at Wave One for Each Group, and the Entire Sample.

<table>
<thead>
<tr>
<th>Measure</th>
<th>Group 1 (n = 4)</th>
<th>Group 2 (n = 5)</th>
<th>Group 3 (n = 9)</th>
<th>Entire Sample (N = 18)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Valid N</td>
<td>M</td>
<td>SD</td>
<td>Valid N</td>
</tr>
<tr>
<td>Fear of Negative Evaluation (BFNE)</td>
<td>4</td>
<td>52.25</td>
<td>7.27</td>
<td>5</td>
</tr>
<tr>
<td>Avoidance (FQ-SPS)</td>
<td>4</td>
<td>29.25</td>
<td>5.50</td>
<td>5</td>
</tr>
<tr>
<td>Anxiety (ANX)</td>
<td>4</td>
<td>16.50</td>
<td>5.97</td>
<td>5</td>
</tr>
<tr>
<td>Depression (DEPR)</td>
<td>4</td>
<td>22.50</td>
<td>8.54</td>
<td>5</td>
</tr>
<tr>
<td>Social Probability (SOC PROB)</td>
<td>4</td>
<td>4.95</td>
<td>0.70</td>
<td>5</td>
</tr>
<tr>
<td>Non-social Probability (NONSOC PROB)</td>
<td>4</td>
<td>1.65</td>
<td>0.64</td>
<td>5</td>
</tr>
<tr>
<td>Social Cost (SOC COST)</td>
<td>4</td>
<td>5.18</td>
<td>1.33</td>
<td>5</td>
</tr>
<tr>
<td>Non-social Cost (NONSOC COST)</td>
<td>4</td>
<td>5.00</td>
<td>0.77</td>
<td>5</td>
</tr>
<tr>
<td>Self Efficacy (SESS)</td>
<td>4</td>
<td>34.00</td>
<td>5.72</td>
<td>5</td>
</tr>
<tr>
<td>Credibility (CRED)</td>
<td>4</td>
<td>19.50</td>
<td>4.36</td>
<td>5</td>
</tr>
<tr>
<td>Expectancy (EXPECT)</td>
<td>4</td>
<td>12.85</td>
<td>5.26</td>
<td>5</td>
</tr>
</tbody>
</table>

Note: Valid N = Number of valid questionnaires used in that calculation.
Means and standard deviations for each group, as well as the entire sample, for questionnaires administered at Waves 2, 3, 4, and 5 are displayed in Appendix B.

Almost all participants (78%) were on medication, and 39% had attended the pre-treatment Breathing Retraining workshop. With a few exceptions, the distributions of variables at pre-treatment were approximately normal with no marked floor or ceiling effects pre-treatment. The exceptions to this were a slight ceiling effect on the credibility scale, with four individuals scoring the maximum possible. Self Efficacy had a slight positive skew, with the frequency of scores between 25-45 being almost rectangular. Avoidance had an even distribution across the range. Homework compliance (average of the homework scores assigned to each participant over the entire course of therapy) for the entire ADS sample had a mean of 3.74 (SD = 0.58) (Group One, M = 4.01, SD = 0.19; Group Two, M = 3.60, SD = 0.96; Group 3, M = 3.72, SD = 0.42). Homework had a slight negative skew, with more people complying with homework, as one would expect.

Attendance (proportion of hours attended relative to the total number of hours that particular group ran for) for the entire ADS sample had a mean of 0.88 (SD = 0.21) (Group One, M = 0.64, SD = 0.38; Group Two, M = 0.95, SD = 0.05; Group Three, M = 0.94, SD = 0.07). The distribution of Attendance for the whole sample had a strong negative skew, with most people attending a large proportion of the course. This variable was transformed using an Arcsine transformation which has the effect of stretching out the tails. In the computation of all inferential statistics using this variable, Transformed Attendance was used. The means obtained for both Homework
compliance and Attendance represent the average over the entire course of therapy, and therefore do not change from wave to wave.

_Equivalence of Participants in Terms of Pre-treatment Severity._

As noted above, participants were grouped in several ways in order to compare symptom severity on Core Measures and Depression. Participants were grouped by therapy group, by age, by gender, by participation in the pre-treatment Breathing Retraining workshop, and by their use of medication pre-treatment. Independent means t-tests (by groups) and one-way ANOVAs using these grouping variables indicated no significant between group differences in terms of severity for any of the Core Measures, or Depression. Importantly, severity of social phobia was not considered to differ between groups at the beginning of treatment.

_Comparisons with Social Phobia Samples in the Literature._

Table 7 displays the pre-treatment severity data of the current sample relative to previously reported findings. Upon entering the groups, the current sample appeared to experience greater severity on every variable except Social Cost and Self Efficacy which were similar to those previously reported findings. For most variables, the ADS sample were between approximately one third and one standard deviation more severe. But note that the most marked differences were in terms of expectation (CEQ items 4, 5, and 6), for which the comparison group were not socially phobia, but suffered from Generalised Anxiety Disorder (Devilly & Borkovec, 2000).
# Table 7

Pre-Treatment Comparison of the Current Sample with Previously Reported Social Phobia Samples

<table>
<thead>
<tr>
<th>Measure</th>
<th>Literature Sample</th>
<th>Current Sample</th>
<th>Comparison</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>BFNE (Weeks et al., 2005)</td>
<td>165</td>
<td>46.91</td>
<td>9.27</td>
</tr>
<tr>
<td>FQ-SPS (Weeks et al., 2005)</td>
<td>165</td>
<td>22.36</td>
<td>7.87</td>
</tr>
<tr>
<td>ANX (Antony et al., 1998)</td>
<td>74</td>
<td>12.22</td>
<td>10.20</td>
</tr>
<tr>
<td>DEPR (Antony et al., 1998)</td>
<td>74</td>
<td>13.19</td>
<td>9.28</td>
</tr>
<tr>
<td>SOC PROB (Foa et al., 1996)</td>
<td>15</td>
<td>4.10</td>
<td>1.50</td>
</tr>
<tr>
<td>SOC COST (Foa et al., 1996)</td>
<td>15</td>
<td>5.60</td>
<td>1.20</td>
</tr>
<tr>
<td>SESS (Gaudiano &amp; Herbert, 2003)*</td>
<td>131</td>
<td>34.58</td>
<td>10.43</td>
</tr>
<tr>
<td>CEQ-Item 1 (Devilly &amp; Borkovec, 2000)*</td>
<td>69</td>
<td>8.12</td>
<td>1.04</td>
</tr>
<tr>
<td>CEQ-Item 2 (Devilly &amp; Borkovec, 2000)*</td>
<td>69</td>
<td>7.31</td>
<td>1.45</td>
</tr>
<tr>
<td>CEQ-Item 3 (Devilly &amp; Borkovec, 2000)*</td>
<td>69</td>
<td>7.40</td>
<td>1.56</td>
</tr>
<tr>
<td>CEQ-Item 4 (Devilly &amp; Borkovec, 2000)*†</td>
<td>69</td>
<td>67.61</td>
<td>17.24</td>
</tr>
<tr>
<td>CEQ-Item 5 (Devilly &amp; Borkovec, 2000)*</td>
<td>69</td>
<td>6.67</td>
<td>1.48</td>
</tr>
<tr>
<td>CEQ-Item 6 (Devilly &amp; Borkovec, 2000)*†</td>
<td>69</td>
<td>66.79</td>
<td>18.06</td>
</tr>
</tbody>
</table>

**Notes:**
- A higher score on these scales is preferable (i.e., less severe) in contrast with all other measures in which a higher score indicates greater severity.
- *These results come from a sample of 69 patients with Generalised Anxiety Disorder. Unfortunately no sample means using Social Phobics could be sourced for this measure. Devilly and Borkovec (2000) report item means and s.d separately, hence the comparison was done item-by-item. The first three items load onto a credibility factor, the last three load onto the expectancy factor.
- †These items on the CEQ require percentage responses, which in the current thesis have been converted to a nine-point scale per instructions. Devilly & Borkovec (2000) list the means and standard deviations of these items using the raw percentages, not converted scores. Hence unconverted percentages are used in this comparison.

**Abbreviations:** BFNE=Fear of Negative Evaluation – Brief Version; FQ-SPS=Self-reported Avoidance; ANX=Self reported subjective Anxiety (Anxiety subscale on DASS21); DEPR=Depression subscale on DASS21; SOC PROB=Social Probability subscale on PCQ; SOC COST=Social Cost subscale on PCQ; SESS=Self Efficacy in Social Situations; CEQ=Credibility/Expectancy Questionnaire.
3.2 Examination of Correlations

Various correlations (Pearson’s r) were carried out as described in the following sections. Note that Non-social Probability and Non-social Cost (NONSOC PROB, NONSOC COST) were excluded from these correlational analyses since the non-social scales on the PCQ are not direct treatment targets in social phobia and were of little interest therapeutically in this thesis.

Within Variable Correlations Over Waves

In this analysis, each variable was correlated with itself in the following wave (e.g., Wave 1 BFNE was correlated with Wave 2 BFNE, Wave 2 BFNE was correlated with Wave 3 BFNE, and so forth, for each “Wave Transition”). Table 8 displays the significant correlations resulting from this analysis, and gives an indication of consistency within each measure. Only correlations which were significant (p< .05) are reported.

Correlations of each variable with itself at different times are generally high. Importantly, the Core social phobia measures and Depression correlated highly and consistently over time.
Table 8

*Within Variable Correlations Over Waves.*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Transition 1 (Wave 1-Wave 2)</th>
<th>Transition 2 (Wave 2-Wave 3)</th>
<th>Transition 3 (Wave 3-Wave 4)</th>
<th>Transition 4 (Wave 4-Wave 5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BFNE</td>
<td>0.80</td>
<td>n.s</td>
<td>0.82</td>
<td>0.78</td>
</tr>
<tr>
<td>FQ-SPS</td>
<td>0.88</td>
<td>0.75</td>
<td>0.86</td>
<td>0.68</td>
</tr>
<tr>
<td>ANX</td>
<td>0.68</td>
<td>0.76</td>
<td>0.59</td>
<td>0.69</td>
</tr>
<tr>
<td>DEPR</td>
<td>0.94</td>
<td>0.84</td>
<td>0.88</td>
<td>0.88</td>
</tr>
<tr>
<td>SOC PROB</td>
<td>n.s</td>
<td>n.s</td>
<td>0.70</td>
<td>0.72</td>
</tr>
<tr>
<td>SOC COST</td>
<td>n.s</td>
<td>n.s</td>
<td>0.83</td>
<td>0.62</td>
</tr>
<tr>
<td>SESS</td>
<td>n.s</td>
<td>0.71</td>
<td>0.72</td>
<td>0.81</td>
</tr>
<tr>
<td>CREDIBILITY</td>
<td>0.72</td>
<td>n.s</td>
<td>0.60</td>
<td>0.79</td>
</tr>
<tr>
<td>EXPECTATION</td>
<td>n.s</td>
<td>n.s</td>
<td>0.84</td>
<td>0.93</td>
</tr>
</tbody>
</table>

Note:
- Only correlations which are significant to p<.05 are reported.

**Abbreviations:** BFNE=Fear of Negative Evaluation – Brief Version; FQ-SPS=Self-reported Avoidance; ANX=Self reported subjective Anxiety (Anxiety subscale on DASS21); DEPR=Depression subscale on DASS21; SOC PROB=Social Probability subscale on PCQ; SOC COST=Social Cost subscale on PCQ; SESS=Self Efficacy in Social Situations; CRED=Credibility subscale on CEQ; EXPECT=Expectation subscale on CEQ

*Within Wave Correlations Between Variables.*

Within wave correlations between variables were calculated to determine which variables were consistently related throughout therapy. Variables for which the correlations were significant (p< .05) in three or more of the five waves are reported.

Table 9 displays any consistent relationships the Core Measures and Depression have with one another, and with other variables. Specifically, it reports those relationships between variables which significantly (p<.05) correlate within at least 3 of the 5 waves. Appendix C displays the results of the same analysis, for the remaining variables.
Table 9
Consistent Correlates of Core Measures and Depression

<table>
<thead>
<tr>
<th>Variable</th>
<th>Consistent Correlate</th>
<th>Wave 1</th>
<th>Wave 2</th>
<th>Wave 3</th>
<th>Wave 4</th>
<th>Wave 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>BFNE</td>
<td>- FQ (SPS)</td>
<td>n.s</td>
<td>n.s</td>
<td>0.54</td>
<td>0.66</td>
<td>0.87</td>
</tr>
<tr>
<td></td>
<td>- SOC PROB</td>
<td>0.49</td>
<td>n.s</td>
<td>n.s</td>
<td>0.48</td>
<td>0.75</td>
</tr>
<tr>
<td>FQ-SPS</td>
<td>- BFNE</td>
<td>n.s</td>
<td>n.s</td>
<td>0.54</td>
<td>0.66</td>
<td>0.87</td>
</tr>
<tr>
<td></td>
<td>- SOC PROB</td>
<td>0.59</td>
<td>n.s</td>
<td>0.55</td>
<td>0.56</td>
<td>0.65</td>
</tr>
<tr>
<td></td>
<td>- SOC COST</td>
<td>0.58</td>
<td>n.s</td>
<td>0.79</td>
<td>n.s</td>
<td>0.71</td>
</tr>
<tr>
<td></td>
<td>- SESS</td>
<td>-0.50</td>
<td>n.s</td>
<td>-0.60</td>
<td>-0.48</td>
<td>-0.71</td>
</tr>
<tr>
<td>ANX</td>
<td>- SESS</td>
<td>-0.50</td>
<td>n.s</td>
<td>-0.69</td>
<td>n.s</td>
<td>-0.49</td>
</tr>
<tr>
<td>DEPR</td>
<td>- SOC PROB</td>
<td>0.48</td>
<td>n.s</td>
<td>0.54</td>
<td>0.55</td>
<td>0.72</td>
</tr>
</tbody>
</table>

Note:
- Only ‘consistent relationships’ are reported. That is, when two variables correlate significantly (alpha of <.05) within at least 3 of the 5 waves.
- Abbreviations: BFNE=Fear of Negative Evaluation – Brief Version; FQ-SPS=Self-reported Avoidance; ANX=Self reported subjective Anxiety (Anxiety subscale on DASS21); DEPR=Depression subscale on DASS21; SOC PROB=Social Probability subscale on PCQ; SOC COST=Social Cost subscale on PCQ; SESS=Self Efficacy in Social Situations.

The results from Table 9 highlight a number of strong relationships (according to the approximate conventions of Cohen, 1988) between variables which remain correlated over treatment. Specifically, the more an individual fears being negatively evaluated (BFNE), the higher they will estimate the likelihood of something going awry socially (SOC PROB), and the more they will avoid social situation situations (FQ-SPS). In addition, the more severely depressed an individual was (DEPR), the higher their estimates of the probability of an unpleasant social encounter. The more people avoid social situations (FQ-SPS), the higher they estimate the probability and cost of something going wrong socially. They also tend to have lower self efficacy in social situations (SESS) and are more fearful of negative evaluation (BFNE). Individuals
with greater subjective anxiety (ANX) tend to have lower levels of self efficacy in social situations (SESS).

Homework Compliance and Attendance correlations are reported separately in Table 10 as they are measures which reflect compliance over the entire course of therapy, and have not been calculated by wave. This table represents the consistent relationships (significant correlations (p<.05) within at least three of the five waves) of these constant scores with other variables which do change over waves.

Table 10
Consistent Correlates of Attendance and Homework Compliance.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Consistent Correlate</th>
<th>Wave 1</th>
<th>Wave 2</th>
<th>Wave 3</th>
<th>Wave 4</th>
<th>Wave 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATTENDANCE*</td>
<td>- BFNE</td>
<td>n.s</td>
<td>n.s</td>
<td>-0.51</td>
<td>-0.61</td>
<td>-0.77</td>
</tr>
<tr>
<td>HOMEWORK COMPLIANCE*</td>
<td>- DEPRESSION</td>
<td>-0.60</td>
<td>n.s</td>
<td>-0.80</td>
<td>-0.71</td>
<td>-0.82</td>
</tr>
</tbody>
</table>

Note:
- *Homework and Attendance are measures which reflect compliance over the entire course of therapy, not by wave. This table represents the correlation of these unchanging scores with other variables which do change over time.
- Only ‘consistent relationships’ are reported. That is, when two variables correlate significantly (alpha of <.05) within at least 3 of the 5 waves.
- Abbreviations: BFNE=Fear of Negative Evaluation – Brief Version; DEPR=Depression subscale on DASS21.

These results indicate that the more depressed a person feels (DEPR), the less likely they are to comply with homework assignments. Additionally, the more people fear being negatively evaluated (BFNE), the fewer sessions they attended.
Correlations Between Pre- and Post-treatment Scores.

In this analysis, the correlations between each Core Measure and Depression at post-treatment (Wave 5) and all measures at pre-treatment (Wave 1) were examined to identify which pre-treatment measures related to post-treatment measures. Significant correlations (p<.05) are displayed in Table 11. Appendix D displays the results of the same analysis, for the remaining variables.

Table 11
Correlations between Wave Five Core Measures and Depression and Wave One Measures.

<table>
<thead>
<tr>
<th>Pre-Treatment</th>
<th>Post-Treatment</th>
<th>Post-Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BFNE</td>
<td>FQ-SPS</td>
</tr>
<tr>
<td>ANX</td>
<td>n.s</td>
<td>n.s</td>
</tr>
<tr>
<td>DEPR</td>
<td>0.57</td>
<td>0.63</td>
</tr>
<tr>
<td>Overall</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ATTENDANCE*</td>
<td>-0.77</td>
<td>-0.60</td>
</tr>
<tr>
<td>HOMEWORK*</td>
<td>n.s</td>
<td>n.s</td>
</tr>
</tbody>
</table>

Notes:
- Only correlations significant to p<.05 level are reported.
- *Homework and Attendance scores are scores which represent compliance and attendance over the entire treatment period, and are not calculated by wave
- Abbreviations: BFNE= Fear of Negative Evaluation – Brief Version; FQ-SPS=Self-reported Avoidance; ANX=Self reported subjective Anxiety (Anxiety subscale on DASS21); DEPR=Depression subscale on DASS21

Greater severity of both Anxiety and Depression at pre-treatment correlate positively with their respective post-treatment levels. Fear of Negative Evaluation and Avoidance do not show this relationship. Severity of pre-treatment Depression is not only associated with greater depression at post-treatment, but is associated with greater severity of Fear of Negative Evaluation and Avoidance at post-treatment. Lower Attendance levels are associated with greater Fear of Negative Evaluation,
Avoidance, and Depression, but not with self-reported subjective Anxiety. Greater Homework Compliance is associated with lower levels of Depression.

3.3 **Efficacy and Effectiveness of Therapy**

Improvement in participants was calculated in a number of ways. Statistically significant change was determined by performing Repeated Measures ANOVAs [3(Treatment Group) x 3(Times)], with repeated measures over times, to determine if the participants changed over time, and if participants changed on any given measure as a function of which treatment group they attended.

Clinically significant change was determined by calculating the mean score on Core Measures and Depression at both pre-treatment and post-treatment, and comparing these to non-anxious sample means reported in the literature using z-scores. The percentage of participants improving into a specified ‘normal’ range by post-treatment was also calculated.

Effectiveness of this Group CBT programme was further examined by comparing the pre-post effect size (Cohen, 1988) in the current sample to those obtained in both efficacy and effectiveness studies.

*Equivalence of Change Between Treatment Groups*

A Repeated Measures Factorial ANOVA [3(Treatment Group) x 3(Time)], with repeated measure on Time, was performed for each therapy outcome measure to
determine if a) there was statistically significant change over time, b) if groups differed significantly, and c) if participants changed differently depending on which group they belonged to (i.e., any interaction). Only measures taken at pre- mid- and post-treatment were entered into the ANOVA since Treatment Group 2 were not administered questionnaires at Wave 2. By using these three waves, equivalent proportions of treatment had been delivered at each point (see Table 5 above). Alpha was set conservatively at p<.01.

No main effects of Group were found, nor any interaction between Group and Time for any measure, indicating participants did not differ in the amount they improved as a function of which group they attended. In addition, the proportion of therapy time spent on various components of therapy were also approximately similar across groups, as can be seen in Table 4 in the Methods section. Consequently, the groups were considered equivalent and combined for remaining analyses.

*Changes Over Time*

*Core Measures and Depression*

In terms of the Core Measures, Fears of Negative Evaluation (BFNE) improved significantly over the course of therapy [F(2, 30) = 13.05, p = .00], see Figure 2. This indicates that participants as a whole experienced a significant reduction in the severity of these evaluative fears. Similarly, over the course of group therapy, the sample as a whole experienced significantly reduced symptoms of self-reported Avoidance [F(2, 30) = 11.35, p = .00], self-reported levels of subjective Anxiety [F(2,
30) = 9.84, p = .00], and became significantly less Depressed over time [F(2, 30) = 15.84, p = .00] as shown in Figures 3, 4, and 5.

![Figure 2](image1.png)

**Figure 2:** Fear of Being Negatively Evaluated (BFNE) – Improvement Over Time.

Note:
-The BFNE has a possible range of 12-60.

![Figure 3](image2.png)

**Figure 3:** Self-Reported Avoidance (FQ-SPS) – Improvement Over Time.

Note:
The Fear Questionnaire – Social Phobia Subscale has a possible range of 0-40.
Note: The Anxiety Scale on the DASS21 has a possible range of 0-42.

**Figure 4:** Self-Reported Subjective Anxiety (ANX) – Improvement Over Time.

Note: The Depression Scale on the DASS21 has a possible range of 0-42.

**Figure 5:** Depression (DEPR) – Improvement Over Time.
Subjective Estimates and Self Efficacy

Participants’ probability estimates of things going wrong socially (SOC PROB) at pre-treatment were significantly higher than their estimates of unpleasant non-social events (NONSOC PROB) ($t(17) = 13.15, p = .00$). Similarly, their estimates of the awfulness or cost of the social events (SOC COST) were also significantly higher than their cost estimates of the non-social events (NONSOC COST) ($t(17) = 3.91, p = 0.00$). Over the course of group therapy, the mean probability estimates participants’ assigned to things going wrong socially (SOC PROB) reduced significantly [$F(2, 30) = 9.85, p = .00$], as did the cost (SOC COST) attributed to such unfortunate social events [$F(2, 30) = 22.55, p = .00$], as displayed in Figures 6 and 7. In terms of non-social estimates, non-social probability did not change significantly during therapy, however the cost they assigned to such non-social events did [$F(2, 30) = 9.63, p = .00$]. Additionally, Self Efficacy in Social Situations (SESS) also significantly improved, on average, over therapy [$F(2, 30) = 21.83, p = .00$], see Figure 8.
Note:
The Social Probability Scale on the PCQ has a possible range of 0-8.

*Figure 6:* Social Probability Estimates – Improvement Over Time

Note:
The Social Cost Scale on the PCQ has a possible range of 0-8.

*Figure 7:* Social Cost Estimates – Improvement Over Time
Note:
The Self Efficacy in Social Situations Scale (SESS) has a possible range of 9-90.

**Figure 8:** Self Efficacy in Social Situations – Improvement Over Time.

**Clinically Significant Improvement**

Means at pre- and post-treatment, on each of the Core Measures and Depression for the ADS sample, were compared with the means of normative groups, using the standard deviation of the normative sample as a scalar. Individual post-treatment scores were also examined to ascertain the actual percentage of people in the ADS sample who by post-treatment were within what is referred to in this thesis as the ‘normative range’ – that is, having scores less than 0.25 of a standard deviation above the reported normative mean. Another way of conceptualising this is that the ‘normative range’ is equivalent to the 60th percentile, the level of severity at which 40% of the general population would report greater severity. Similarly, the percentage of the ADS sample that by post-treatment had scores at or above the 90th percentile was calculated. In this thesis, those individuals were defined as being ‘highly
elevated’ in that measure. Table 12 lists the published source, means, standard deviations, and range, of the normative samples.

Table 12
Normative Samples: Means, Standard Deviations, and Range

<table>
<thead>
<tr>
<th>Measure</th>
<th>Citation for Normative Sample</th>
<th>N</th>
<th>M</th>
<th>SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>BFNE</td>
<td>Duke, Krishnan, Faith and Storch (2006)</td>
<td>355</td>
<td>32.3</td>
<td>7.34</td>
<td>13-60</td>
</tr>
<tr>
<td>FQ-SPS</td>
<td>Gillis, Haaga and Ford (1995)</td>
<td>242</td>
<td>Not reported</td>
<td>Not reported</td>
<td>Not reported</td>
</tr>
<tr>
<td>Note: Percentile Table Available Only</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ANX</td>
<td>Henry and Crawford (2005)</td>
<td>1,794</td>
<td>3.76</td>
<td>5.9</td>
<td>0-40</td>
</tr>
<tr>
<td>DEPR</td>
<td>Henry and Crawford (2005)</td>
<td>1,794</td>
<td>5.66</td>
<td>7.74</td>
<td>0-42</td>
</tr>
</tbody>
</table>

Abbreviations: BFNE=Fear of Negative Evaluation – Brief Version; FQ-SPS=Self-reported Avoidance; ANX=Self reported physiological Anxiety (Anxiety subscale on DASS21); DEPR=Depression subscale on DASS21.

Fear of Being Negatively Evaluated.

On average, the fear of negative evaluation (BFNE) experienced by the ADS sample pre-treatment was found to be 2.59 standard deviations above the normative level (Normative Data from Duke et al., 2006). This dropped over the course of therapy, and by post-treatment the ADS Sample was only 1.27 standard deviations above the normative level at post-treatment. In other words, on average, before the ADS sample had begun group therapy, they were more severe than the 99th percentile of the community sample in terms of their evaluative fears. After therapy, however, the ADS sample on average had improved, and their mean fell to around the 90th percentile of the general population.

With regard to individual change, while none of the ADS sample had scores within the ‘normative range’ before group therapy had begun, 39% of the ADS sample after treatment were in the ‘normative range’ (i.e., at or below the 60th percentile).
However 50% of the initial sample by post-treatment were still ‘highly elevated’ in their evauative fears (i.e., above the 90th percentile).

*Self-Reported Avoidance*

Before group therapy, the ADS sample’s mean score on the Avoidance measure was well above the 90th percentile (Normative Data from Gillis et al., 1995). This indicates that less than 10% of a community sample reported more avoidance. By post-treatment, the ADS sample mean had dropped to approximately the 75th percentile, meaning that about 25% of the community sample report greater avoidance of the social situations assessed in the FQ-SPS.

When it came to individual change, while no one was within the ‘normative range’ prior to the commencement of the group, by the end of therapy, 44% of the ADS sample fell within this ‘normative range’. However, also by the end of group therapy, 39% were reporting avoidance in the ‘highly elevated’ range.

*Subjective Anxiety*

On the measures of subjective Anxiety, the mean of the ADS sample before group therapy was well over two standard deviations above a non-clinical sample (Normative Data from Henry & Crawford, 2005), placing the ADS sample at the 99th percentile. In fact, less than one percent of the normative sample reported greater subjective Anxiety. By the end of group therapy, the ADS sample on average
improved to the 90th percentile, such that 10% of the normative sample would report more severe subjective Anxiety.

With respect to individual change, only one individual (6% of the sample) was in the 'normative range' prior to group therapy. By the end of therapy, 17% of the ADS sample fell in the 'normative range'. However, 44% of the ADS sample were still 'highly elevated' in their subjective anxiety.

Depression

Before group therapy began, the ADS sample’s mean on this measure of Depression fell at the 92nd percentile (Normative Data from Henry & Crawford, 2005). By the end of group therapy however, the ADS sample reported a mean Depression severity which fell at the 61st percentile. In other words, 39% of the normative sample reported feeling more depressed.

With regard to individual results, 22% of the ADS sample were within the 'normative range’ prior to the commencement of group therapy. By the end of therapy, 61% of the ADS sample fell in the ‘normative range’, and only 17% were in the ‘highly elevated’ range.
Comparisons with other Efficacy and Effectiveness Studies.

Pre- to post-treatment effect sizes (Cohen, 1988) were computed for each of the Core Measures. The formula used was identical to that used by Taylor with which these effect sizes in the current thesis are compared.

\[ d = \frac{(M_{pre} - M_{post})}{SD_{pooled}}. \]

\[ SD_{pooled} \text{ was computed using } SD_{pooled} = \sqrt{SD_{pre}^2 + SD_{post}^2}/2. \]

The effect sizes for all Core Measures were large according to Cohen (1995). Specifically change in Fear of Negative Evaluation (BFNE) produced an effect size of \( d = 1.26 \), change in self-reported Avoidance an effect size of \( d = 1.22 \), and change in subjective Anxiety an effect size of 1.01.

3.4 Predictors of Outcome

Hierarchical Multiple Regressions were carried out to determine the extent to which certain variables were able to predict the degree of change in the Core Measures and Depression. Before conducting the regressions, the distributions were analyzed, and an Arcsine transformation was used for Attendance, as previously described.

For each series of regressions, all participants (\( N = 18 \)) were included, unless otherwise noted. Case-wise deletion was used in order to keep the same \( N \) within a set of regressions to allow for comparisons of zero-order correlations and Beta weights.
For each regression, Tolerance levels were examined to ensure no independent variables were too highly related causing a multicolinearity problem. Appendix E can be referred to for all correlations between pre- and post-treatment measures.

A question of interest in this study was “Which variables can predict change in the outcome measures?”. One approach sometimes used is to enter change scores as the dependent variable, however this has the serious limitation that a change score is a function of three things; pre-treatment severity, post-treatment severity, and actual change. A more rigorous approach is to enter the post-treatment score as the dependent variable and extract pre-treatment variance associated with that measure at Step One, thus leaving variability due to change during therapy to be accounted for.

Since there are three Core Measures of outcome in social anxiety in this thesis, every potential predictor had to be examined for its value in predicating change in each of the Core Measures, and Depression. Therefore, for each of the predictor/s examined, a series of four Hierarchical Multiple Regressions were calculated, with each of the Core Measures and Depression being entered, in turn, as the dependent (predicted) variable. In each regression, the value of the pre-treatment scores for the particular dependent variable was entered in Step One to control for pre-treatment severity level. Step Two then added the potential predictor/s of interest.

The sample size was insufficient for all potential predictor variables to be entered into one regression. Given the low sample size, no more than three predictors (including the Step One independent variable) in total were entered into any regression. Potential predictors were therefore grouped into subsets if they were conceptually related. In
each regression, all predictors from one ‘group’ were entered together at Step Two so that each one in the group was controlled relative to the others. In many cases a predictor was thought to be relatively separate from the other variables, in which case it was not grouped with other variables.

Potential predictors were grouped into subsets based on their conceptual relationship to one another. The Core Measures of social phobia in this thesis (BFNE, FQ-SPS, ANX) were grouped together since they broadly reflect the three domains of the fear response – cognitive, behavioural, physiological. A measure not grouped with other variables was Depression. Depression was entered alone since it seemed conceptually different from other measures. Another group consisted of measures assessing participants’ subjective estimates of negative social events (SOC PROB and SOC COST). Self Efficacy was not grouped with other measures as this variable seemed relatively separate from other measures. Homework compliance and Attendance were grouped together since they both assess different aspects of participation and compliance. Credibility and Expectation ratings were grouped together since these likely reflect participants’ judgements about the potential effectiveness of the therapy. Demographic and personal information were entered separately into a further set of regression equations.

For most Regressions, the independent variables were pre-treatment scores. However Homework Compliance and Attendance were also examined to determine their predictive value, and these scores reflect compliance over the entire course of therapy. In addition, demographic information, namely gender, age, and attendance at Breathing Retraining workshop, were each entered in separate regressions.
Medication use at pre-treatment was not used in any regression since almost the entire sample were taking medications before group therapy began.

In reporting the regressions, only results of Step Two are reported below, since the within-variable relationship entered at Step One was not, of itself, particularly interesting.

**Series 1: Core Measures at Pre-treatment as Predictors**

Pre-treatment levels in the Core Measures were not significantly predictive of improvement in any of the other Core Measures or Depression. That is, none of the four regressions within this series produced a significant result. Pre-treatment severity of Avoidance and subjective Anxiety did not predict change in Fear of Negative Evaluation. Pre-treatment severity of Fear of Negative Evaluation and subjective Anxiety did not predict change in Avoidance. Initial severity of Fear of Negative Evaluation and Avoidance did not significantly predict change in subjective Anxiety. Finally pre-treatment severity of Fear of Negative Evaluation, Avoidance, or subjective Anxiety could significantly predict change in Depression.

**Series 1: Pre-treatment Depression as a Predictor.**

As shown in Table 13, those who were more depressed upon entering group therapy were significantly more likely to experience less therapeutic improvement in their fear of being negatively evaluated (BFNE) and in their self-reported Avoidance. Pre-treatment Depression in this sample accounted for almost a quarter of the variance in
both outcome of evaluation fears (BFNE) and Avoidance even after controlling for pre-treatment severity on their respective measures. Severity of pre-treatment Depression was not significantly predictive of change in self reported subjective Anxiety.
Table 13
Regression Results: Pre-treatment Depression as a Predictor

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>DV: Post-treatment Fear of Negative Evaluation (BFNE Post-Treatment)</th>
<th>DV: Post-treatment Avoidance (FQ-SPS Post-Treatment)</th>
<th>DV: Post-treatment Anxiety (ANX Post-Treatment)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>r</td>
<td>Beta</td>
<td>t</td>
</tr>
<tr>
<td>STEP 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DEPR (Pre-Treatment)</td>
<td>0.567</td>
<td>0.510</td>
<td>2.332</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DEPR (Pre-Treatment)</td>
<td>0.629</td>
<td>0.525</td>
<td>2.380</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DEPR (Pre-Treatment)</td>
<td>0.045</td>
<td>0.011</td>
<td>0.050</td>
</tr>
</tbody>
</table>
Series 3: Homework Compliance and Attendance as Predictors.

Homework compliance and Attendance were analysed separately, first, in two different regression equations. They were then entered together within a third, separate, regression equation since they both reflect general compliance with treatment, and it was of interest to ask which held more predictive power when they were pitted against each other. These three regression equations are termed Set One (Attendance entered in Step Two without Homework Compliance), Set Two (Homework Compliance entered in Step Two without Attendance), and Set Three (Attendance and Homework Compliance entered together in Step Two). Results from these regressions can be seen in Table 14. In this series of regressions, to keep the sample size consistent within this series, one participant was excluded from the analysis since they were unable to be assigned a homework score as they had attended only the first session.
Table 14  
Regression Results: Attendance and Homework Compliance as Predictors

<table>
<thead>
<tr>
<th>SET</th>
<th>STEP</th>
<th>Independent Variables</th>
<th>DV: Post-treatment Fear of Negative Evaluation (BFNE Post-Treatment)</th>
<th>DV: Post-treatment Avoidance (FQ-SPS Post-Treatment)</th>
<th>DV: Post-treatment Anxiety (ANX Post-Treatment)</th>
<th>DV: Post-treatment Depression (DEPR Post-Treatment)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>r</td>
<td>Beta</td>
<td>t</td>
<td>p</td>
</tr>
<tr>
<td>SET 1</td>
<td>STEP 2</td>
<td>Attendance</td>
<td>-0.707</td>
<td>-0.693</td>
<td>-3.490</td>
<td>0.004</td>
</tr>
<tr>
<td>SET 2</td>
<td>STEP 2</td>
<td>Homework</td>
<td>-0.309</td>
<td>-0.331</td>
<td>-1.361</td>
<td>n.s.</td>
</tr>
</tbody>
</table>
As displayed in Table 14, greater attendance during group therapy predicted greater improvement in individuals fears of negative evaluation (BFNE), while Homework, when entered alone (without Attendance) did not. However when Attendance and Homework were both included in the regression, both were significant predictors. The large effect sizes associated with these predictors is of particular note. Specifically, Attendance and Homework compliance scores accounted for 53% and 21% of the variance, respectively, in post-treatment BFNE, even after controlling for one another, and pre-treatment BFNE severity. That is, greater Attendance and compliance with Homework tasks contributed substantial and significant predictive value in predicting the degree of reduction in evaluative fears (BFNE) over the course of therapy. The $R^2$ Change in Step Two of the combined model indicates that Attendance and Homework compliance, when entered together, accounted for an additional 64% of the variance in post-treatment BFNE, over and above pre-treatment BFNE severity.

Table 14 shows that greater Attendance significantly predicted greater improvement in self-reported Avoidance over the course of therapy, accounting for over a quarter of the variance in outcome after controlling for pre-treatment level of Avoidance and Homework Compliance. Compliance with Homework tasks on the other hand, did not significantly predict greater reductions in Avoidance when entered alone or alongside Attendance.

Neither degree of Attendance nor Homework compliance were significantly related to degree of change in self-reported levels of subjective Anxiety, as shown in Table 14. This was true when entered alone or in the combined model.
Table 14 also shows that degree of Attendance was not significantly related to the
degree to which people became less Depressed over treatment. This was the case
when Attendance was entered alone or together with Homework compliance. In
contrast, greater compliance with Homework tasks significantly predicted greater
therapeutic improvement in Depression severity over treatment. This was true when
Homework was entered alone or with Attendance. In the combined model, Homework
compliance, over and above both Attendance and pre-treatment Depression severity,
accounted for almost 30% of the variance in post-treatment depression.

**Series 4: Pre-treatment Credibility and Expectation Ratings as Predictors.**

Neither pre-treatment Credibility nor Expectation ratings significantly predicted
change in any of the Core Measures or Depression.

**Series 5: Secondary Measures of Interest.**

The group of measures relating to pre-treatment subjective estimates about negative
social events (SOC PROB and SOC COST) did not predict change on any Core
Measures of outcome. Additionally, neither Self-Efficacy in social situations, gender,
age, nor prior attendance at the Breathing Retraining Workshop were able to
significantly predict change in any of the Core Measures or Depression. Medication
use at pre-treatment was unable to be regressed since almost the entire sample were
taking medications pre-treatment.
CHAPTER FOUR

DISCUSSION

4.1 Efficacy andEffectiveness of Therapy

It is an encouraging finding that on average the socially anxious participants in this study improved significantly on all therapeutic measures. Moreover, even using a very stringent criteria for what was defined as the ‘normative range’ in this thesis (i.e., 60th percentile of the general population), a substantial number of participants were found to be functioning similarly to people from the general population. Specifically, by the end of group therapy, approximately 40% of participants fell in the normative range of evaluative fears and avoidance, nearly 20% reported subjective anxiety in the normative range, and 60% reported levels of depression comparable to those experienced in the general population. This is a heartening finding since not only did the ADS sample have greater severity than treatment samples reported in the literature, but the criteria in this thesis used to classify an individual as being in the ‘normative range’ was particularly stringent (i.e., at or below the 60th percentile of the general population on the relevant outcome measure of social anxiety).

Some researchers have reported effect sizes for CBT for social phobia ranging from 0.70-0.74 (Reviewed in 1993; Gould et al., 1997), which are computed using a control group. Taylor (1996), in contrast, reported pre-post effect sizes, and reported a higher effect size of 1.06 (SD = 0.34) (N = 11) for combined cognitive behavioural therapies.
Given that the current study has no control condition, Taylor’s reported effect size is most comparable. Using the same equation (Cohen’s $d$) as Taylor (1996), the ADS treatment performed extremely well with self-reported avoidance producing an effect size of 1.22 (this measure being the only measure in the current study which was also used in Taylor’s calculations). When effect sizes were computed in this thesis using the BFNE or subjective Anxiety (ES of 1.26, and 1.01, respectively), the ADS treatment still compared favourably, all effect sizes being greater than 0.80, the threshold for a large effect size (Cohen, 1992).

Gaston et al., (2006) contrasted pre-post BFNE effect sizes when the same manualised treatment was implemented in a research facility and a private practice. The authors reported effect sizes of 0.71 for the research facility, and 0.79 for the private practice, based on an intent-to-treat analysis. Using a completer approach, an effect size of 1.2 was obtained for both settings. Again, the results of the ADS compare favourably.

These are important findings since they support the effectiveness of the Group CBT programmes run by the ADS. These findings provide additional support for the effectiveness of cognitive and behavioural therapeutic techniques which have been well studied and are supported in the efficacy literature. More importantly, this research indicates that in this case, a routine clinical practice sourced and implemented CBT techniques as they saw fit and delivered an effective CBT treatment. In fact, their treatments were as effective as manualised treatments administered in strictly controlled research facilities. These encouraging findings speak to the accessibility of CBT techniques and their usefulness when applied in real world settings.
4.1.1 Improvement on Core Measures

Importantly, the ADS sample on average improved to a statistically significant degree in all core outcome measures of social phobia. When relationships amongst the core measures are examined, an interesting finding emerges. In the ADS sample, stronger evaluative fears had strong and consistent relationships with increased avoidance. If an individual greatly fears being negatively evaluated, it makes sense they would avoid situations in which negative evaluation may occur (Watson & Friend, 1969). However this is a vicious circle in that with greater avoidance there would be less opportunity for disconfirming evidence to be processed which could allay their fears (Beck et al., 1985; Beck, 1995).

Self-reported subjective anxiety (in which the scale tapped mostly somatically focussed items) on the other hand, did not consistently correlate significantly with either fear of being negatively evaluated or avoidance. This was surprising initially since the subjective anxiety might be expected to reflect general distress, which may be expected in individuals with high scores on the other core measures of social phobia. It would also be expected that such subjective anxiety would reduce alongside improvement in the other core measures. This surprisingly discordant relationship between subjective anxiety and the other core measures may be explained by Lang’s (1968) theory. Lang proposed that one’s cognitive, behavioural and physiological fear responses do not show strong relationships between each other. Heimberg et al., (1990) also found a discordant relationship between core anxiety measures in their
Group CBT programme for social phobia. These authors point to Lang’s (1968) theory as a possible explanation.

There is an important consideration in understanding the discordant relationship found between subjective anxiety and the other core measures in the current study. Namely, examination of the circumstances in which an individual might report high or low subjective anxiety is important. Graded exposures begin with an individual exposing themselves repeatedly to previously feared situations, which over time they become more realistic and less fearful about. After mastering one step, they move onto a more challenging step. Subjective anxiety items were based on the previous week (i.e., the questionnaire asks respondents to rate how much each statement (e.g., “I experienced trembling”) applied to them over the past week). Given that this questionnaire asked about subjective anxiety during only the past week, some individuals may have reported high subjective anxiety if they had begun the new step on a graded hierarchy. However others may have habituated to their anxiety on a particular step and have been about to move to a more challenging step, and therefore report lower anxiety. In both cases the individual may have been progressing well in therapy, and yet report either high or low subjective anxiety.

Perhaps an even more important consideration is that individuals who were not engaging or responding to therapy generally may have reported low subjective anxiety since they were not exposing themselves to feared situations. It is therefore possible that an individual who was reporting low subjective anxiety could have been either a responder or non-responder to therapy, resulting in a low correlation between this measure and less ambiguous measures of severity (fear of negative evaluation and
avoidance). In consequence, fear of negative evaluation and self-reported avoidance may be more valid measures of improvement.

When the graphs of the best and worst responders (based on improvement in BFNE; see Appendix F) are examined, it is clear that the worst responders’ subjective anxiety was never more intense than the moderate range, whereas four out of the five best responders reported anxiety in the severe range at pre-treatment which reduced by the end of therapy. While this could reflect greater room for improvement for the best responders (or, conversely, a floor effect for the worst responders), avoidance of exposures is also a plausible explanation. It is possible that worst responders began and continued through the therapy programme avoiding situations sufficiently to keep their anxiety at bay. Indeed when the graphs of avoidance are examined, best responders reported less avoidance by the end of therapy, whereas worst responders, while being comparable with best responders in terms of pre-treatment avoidance severity, reduced their avoidance very little by the end of therapy.

This result adds support to the hypothesis that low subjective anxiety may be reported by either an individual progressing well in therapy, or an individual who is not responding. If this were the case, it may help explain the low correlation between subjective anxiety and the less ambiguous measures of social phobia such as fear of negative evaluation and avoidance (as measured by the BFNE and FQ-SPS, respectively).
4.1.2 Improvement on Subjective Estimates and Self Efficacy

In addition to the core indicators of improvement, a number of mechanisms of change have been put forward in the literature, as reviewed in the Introduction. In the current study, only two of these proposed mechanisms were assessed – namely the probability and cost estimates participants assigned to negative social events, as well as self efficacy in social situations.

Further examination of the correlation analyses reveals greater fears of negative evaluation held a strong and consistent relationship not only with avoidance, as previously discussed, but with inflated probability estimates of aversive social events. Avoidance, in turn, showed a consistent relationship with increased probability and cost estimates regarding negative social events and reduced self efficacy.

With a strong fear of negative evaluation, and a hypervigilance toward social threat (see Bogels & Mansell, 2004), socially anxious individuals may catastrophise about the likelihood of negative social events. With such strong evaluative fears and a perception that negative social events (in which evaluation could take place) are both probable and costly, coupled with a belief that one does not have the ability to cope in such situations, an individual with social phobia could be expected to avoid social situations. With such avoidance, their anxiety is maintained (Beck et al., 1985). Greater avoidance means they lack the opportunities to glean disconfirmatory evidence which may revise downward their inflated probability and cost estimates, strengthen their self efficacy in social situations, and allay some of their fears.
Subjective Estimates

The results show that the ADS sample before treatment believed the likelihood and cost of a negative social event to be significantly higher than that of a non-social event (e.g., a social event such as being ignored by someone they knew was estimated to be more likely and costly than a non-social event such as losing a wallet). During therapy however, their likelihood and awfulness estimates of negative social events significantly reduced. This finding is expected during CBT therapy which, in part, teaches people to think more realistically (Beck, 1995; Foa et al., 1996). This finding is consistent with other researchers who have found these estimates to reduce during successful therapy for social phobia (Foa et al., 1996; Hofmann et al., 2004; McManus et al., 2000). When these estimates are reduced, an individual is less likely to perceive social situations as dangerous, and consequently experience less anxiety (Foa et al., 1996; Foa & Kozak, 1986). There were strong correlations between subjective estimates and core outcome measures. However what cannot be determined in this research is whether the relationship between subjective estimates and core outcomes is a causal or consequential one. While the direction of causality is not identifiable in the current study, Hofmann (2004) has found that reductions in social cost actually mediates change – that is, social cost change is a mechanism which leads to therapeutic change (Hofmann, 2004).

The results of the current research indicate that participants’ non-social cost estimates, but not their non-social probability estimates, significantly reduce over treatment. This result is consistent with the findings of the developers of the PCQ scale (Foa et al., 1996). While the current study has no control condition, Foa et al., (1996)
included a group of non-anxious controls. A comparison of the results of the non-anxious controls and the generalised social phobics can help shed light on this result (Foa et al., 1996). Foa and colleagues (1996) found that generalised social phobics’ social and non-social cost estimates were significantly higher than that of the non-anxious controls, suggesting that social phobics overestimate the awfulness of both types of events. However, when it came to probability estimates, generalised social phobics reported significantly higher social, but not non-social, estimates compared to their non-anxious counterparts. This finding suggests that social phobics may overestimate the likelihood of negative social events, but are more realistic about negative non-social events. Perhaps social phobics’ pre-treatment cost estimates of non-social events are inflated as a result of a more anxious general disposition pre-treatment. If this were the case an observed reduction in their non-social cost estimate during therapy may be a result of an improvement in their general disposition toward anxiety and worry. No significant reduction in non-social probability estimates may be a result of more accurate estimations of the likelihood of negative nonsocial events by social phobics pre- and post-therapy. Therefore these estimates would not change throughout therapy.

*Self Efficacy in Social Situations.*

During group therapy, the self-efficacy of the ADS sample improved significantly. This is important as it indicates the ADS participants became more confident in their ability to cope in social situations, which would be expected to be associated with therapeutic improvement (Hofmann, 2000). Indeed, in terms of our core measures, we found a consistent relationship between higher self efficacy and less subjective
anxiety and avoidance. Although the direction of causality cannot be determined in this study, Hofmann (2000) has proposed improvement in perceived self efficacy (and social skills) actually mediates change.

4.2 PREDICTORS OF CHANGE

While many participants’ clearly experienced substantial improvement, some participants responded poorly to treatment. Specifically, for each core outcome measure (BFNE, FQ-SPS, ANX) approximately 40%-50% of the participants’ post-treatment scores were at or above the 90th percentile of the general population. This show that about one-third of the ADS group were still notably suffering symptoms after therapy. What, then, is important in determining strong therapeutic change?

The results of the multiple regressions in this study found three strong predictors of change in some, but not all, of the outcome measures; homework compliance, attendance, and pre-treatment severity of depression. Chambless et al., (1997) found that greater depression, avoidant personality disorder and lower expectations were all predictive of outcome, and that pre-treatment severity of depression was the most prominent predictor, with expectation being a significant but poorer predictor of change. The current study also found pre-treatment depression to be a predictor of response. However, expectation was not found to be significant in this thesis. This lack of a significant finding may be a result of the low statistical power, since the sample size in the current study (N=18) was substantially lower than that of Chambless et al., (1997) (N = 59). The lack of a significant finding may therefore by
explained by a statistical power problem, as opposed to the lack of a real link between expectation and degree of improvement.

4.2.1 Pre-treatment Severity of Depression

In the current study, lower levels of self-reported depression were predictive of greater reductions in evaluative fears and self-reported avoidance (i.e., two of the three core measures). Pre-treatment depression scores accounted for 24% and 21% of the variance, over and above pre-treatment severity, in fear of negative evaluation and avoidance, respectively. The finding that lower levels of pre-treatment depression predicts greater response during group therapy for social phobia is consistent with the findings of a number of researchers (Chambless et al., 1997; Scholing & Emmelkamp, 1999).

These findings make sense in that depressive symptoms mean that it is harder to follow along with therapy. DSM-IV-TR depressive symptoms such as loss of interest, fatigue, feelings of worthlessness, guilt, poor concentration, and indecisiveness (American Psychiatric Association, 2000) could all contribute to difficulty following and engaging well in therapy (e.g., Beck et al., 1985). For example, aspects of an ideal therapy situation such as engaging well with therapists and fellow members, maintaining concentration during long sessions (minimum 4 hours long), and carrying out exposures and cognitive restructuring tasks would clearly be more challenging if suffering from depression.
While it is not possible to infer causation from correlations, the independent variables (pre-treatment scores) in these regressions were measured before the dependent variable (post-treatment scores) were obtained. Consequently, it is more likely that greater severity of depression pre-treatment leads to poorer outcomes. Pre-treatment depression did not significantly predict change in subjective anxiety. This result may reflect the discordance of subjective Anxiety with the other core measures, and its mixed effectiveness as a measure of outcome, as previously discussed.

The onset of social phobia usually precedes the onset of depression (American Psychiatric Association, 2000), which suggests that suffering from social phobia can result in depression. It makes sense, therefore, that treating social phobia in the first instance may naturally result in the remission of depression. Some researchers have found that reductions in social anxiety during Group CBT accounted for over 90% of the improvement in depressive symptoms (Moscovitch, Stefan G Hofmann, Suvak, & In-Albon, 2005). This would suggest the successful treatment of social phobia is likely to result in the natural remission of depressive symptoms. However, this relies on the treatment of social phobia actually being successful.

The results of the current study and previous studies (Chambless et al., 1997; Scholing & Emmelkamp, 1999) indicate that the presence of depressive symptoms pre-treatment may actually undermine the success of the social phobia treatment for those individuals. The results of the current study therefore provide support for the suggestions of Chambless et al., (1997) and Scholing and Emmelkamp (1999) that given the ease with which some cognitive restructuring directed toward depressive cognitions could be incorporated, this could be therapy time well spent. In particular,
attending to depression early in therapy, before depressive symptoms undermine full participation and exposure, may be most beneficial (Scholing & Emmelkamp, 1999).

Depression is a common comorbidity in individuals with social phobia (reviewed in Brunello et al., 2000). In the ADS sample, over three quarters of the participants reported pre-treatment depression severity above the ‘normative range’, that is, above the 60th percentile of the general population (28% of the sample was in the severe category). Consequently, it is likely that addressing depressive cognitions early in therapy would have been of benefit to the vast majority of participants.

4.2.2 Attendance and Homework Compliance

Predicting Reductions in Fear of Negative Evaluation and Avoidance

Greater attendance and homework compliance were predictive of greater reductions in evaluative fears. This was the case in the combined model, and also when attendance, but not homework compliance, was entered alone. The change in homework compliance becoming a significant predictor, but only when entered alongside attendance, reflects a suppression effect. That is, when both attendance and homework compliance scores were entered into the model, the regression equation removed the overlap between these two predictors, which happened to be non-predictive of outcome. When this non-predictive overlap was removed, it was tantamount to removing noise, and therefore the proportion of variance in outcome accounted for by both homework compliance and attendance increased (as seen by the larger Beta weights in the combined model). This was to such an extent that homework
compliance actually became predictive. Consequently, both attendance and homework compliance, even after controlling for pre-treatment severity of evaluative fears (BFNE), were both strong predictors of outcome in fear of negative evaluation (BFNE).

The finding that homework compliance and attendance are significant predictors of improvement in evaluative fears speaks to the value of both attending a therapy designed to reduce social anxiety, but also to the importance of complying with homework assignments. This finding has remarkably large effect sizes. In the combined model, attendance and homework compliance each accounted for 53% and 21% of the variance in post-treatment fear of negative evaluation, respectively, even after severity of pre-treatment evaluative fears had been controlled for. While it is commonsense to expect that participants will gain more benefit from therapy if they actually attend, the predictive value of homework compliance is striking.

This is an important finding and is broadly consistent with other researchers in social phobia who found that homework compliance during the early and late phase of CBT, but not overall, was predictive of improvement (Leung & Heimberg, 1996). Other researchers have found a relationship between homework compliance and improvement at 6 months post-treatment (Edelman & Chambless, 1995). Some researchers have suggested homework compliance to be causally related to therapeutic improvement (albeit in depression, not social phobia) (Burns & Spangler, 2000), however their study has been critiqued by others for implying a causal relationship from Structural Equation Modelling which is based on correlations (Kazantzis et al., 2001).
Kazantzis et al., (2001) raise a number of pertinent points to keep in mind when interpreting the predictive value of homework compliance as found in this thesis. They make the point that it is important not to infer causation from correlations, and since multiple regressions are based on correlations, it would be inappropriate to say that homework compliance results in greater reduction in evaluative fears.

Kazantzis et al., (2001) also stress that comprehensive measurement of homework compliance involves considering a number of important factors. For example, homework compliance may be overstated by participants in order to avoid conflict with the therapist, and may be overrated by therapists who recognise the participant is progressing well and are therefore biased to think the participant must be doing their homework (Burns & Nolen-Hoeksema, 1991; Hoelscher, Lichstein, & Rosenthal, 1984; reviewed in Kazantzis et al., 2001). In addition, it is important to measure therapist competence in assigning homework, and quality of homework compliance (Kazantzis, Deane, & Ronan, 2004; Kazantzis et al., 2001).

These warnings are relevant to the current study since only one clinician rating scale was utilised. On this scale the therapist rated each participant’s homework compliance, on a scale of one to six, after each session (Primakoff et al., 1986). The other important facets of homework assessment were not measured. Of particular importance is that given all members of the group were socially anxious, the possibility of conflict avoidance or social desirability driving participants to overstate their homework compliance is a real possibility. Furthermore, clinicians rated homework compliance often at the end of a long session, when reporting back on
homework was likely to have occurred early in the session. This lag may well accentuate the possible bias of clinicians overestimating the compliance of individuals who are responding well to treatment.

Bearing these limitations in mind, the predictive value of homework compliance as measured by the HCS is still remarkable. This finding speaks to the importance of therapists becoming more aware of the significance of participant engagement in homework, and therapy as a whole. Indeed homework is an important facet of cognitive behavioural therapy as it assists clients transfer the skills they learn in therapy sessions to their everyday lives (Beck et al., 1985).

Another finding in the current study was that greater attendance, but not homework compliance, predicted improvement in avoidance. This was true when attendance and homework compliance were entered either alone or together into the model. There are a number of important considerations with this finding.

Firstly, greater attendance means the participant is being exposed to a therapy which is designed to reduce symptoms of social phobia, one of which is avoidance. This means that attending therapy is associated with symptomatic improvement (specifically, in avoidance). Secondly, attendance at group sessions is actually preventing avoidance, i.e., by virtue of attending a group, participants are less avoidant of the situations tapped by the FQ-SPS scale (e.g., being watched or stared at, talking to people in authority, speaking or acting to an audience). In other words, a group member who attends the programme, say, every day for a week, is inevitably exposed to talking to the therapist, speaking in front of the group, and having other
group members looking at them. One argument could be that less avoidance pre-treatment actually enables the participant to join in group sessions. However this finding was significant over and above pre-treatment severity of avoidance.

The finding that greater homework compliance does not significantly predict reduced avoidance but does predict improvement in fear of negative evaluation was a puzzling finding. These dependent variables are both core measures in the current study and should be indicative of improvement in social phobia generally. The difference between them is that one is of a more cognitive nature, the other more behavioural. Unfortunately the content of assigned homework was not assessed in the current study, however it may be that a number of the homework tasks assigned had a substantial cognitive or reflective element (e.g., reading course material, practicing cognitive challenging). If that were the case, it may help explain why homework compliance was predictive of reduction in evaluative fears, but not avoidance. Future research needs to focus on homework, and the multidimensional measures of it.

*Predicting Reductions in Subjective Anxiety*

Neither homework compliance not attendance could predict improvement in subjective anxiety. This finding may simply be due to the discordance of subjective anxiety with the other core measures, and may reflect this measure’s mixed utility as a measure of outcome in the current study, as previously discussed.
Predicting Reductions in Depression

Greater homework compliance, but not attendance, predicted reductions in the severity of depressed feelings. This was true when homework compliance and attendance were entered either alone or together into the regression model. In fact, homework compliance accounted for 29% of the variance in depression after controlling for pre-treatment severity of depression and attendance. This finding is important since it again emphasises the importance of homework compliance in successful outcome. This result is consistent with the findings of other researchers (e.g., Addis & Jacobson, 2000; Bryant, Simons, & Thase, 1999).

An important consideration in this result is that while greater compliance with homework tasks predicts reductions in depression, there is a strong correlation between greater severity of pre-treatment depression and poorer homework compliance. Taken together these findings indicate that while greater homework compliance is predictive of reductions in depression, people who are depressed before they begin treatment are also likely to be less compliant with homework. However the regression model controlled the variance attributable to pre-treatment severity of depression when predicting post-treatment depression. Therefore greater compliance with homework tasks significantly predicted improvement in depression, even after the effects of pre-treatment depression severity were taken into account. Homework is clearly important, but given that it may be impaired by levels of depression at the beginning and through therapy, these findings lend further support to the notion of addressing depression within social phobia treatment, and the importance of doing so
early. They also support clinical practice focussed on clients’ participation in homework. This is further discussed below.

The impact of initial severity of depression on compliance and participation is an important one, and needs to be examined when considering the factors which predict improvement in the two core measures of fear of negative evaluation and avoidance. Given that individuals who are depressed prior to treatment are also the ones who comply less with homework, one question is whether it is the compliance which is predictive of improvement in the core measures of anxiety, or if a greater degree of pre-treatment depression predicts poorer compliance and poorer outcome in social anxiety. In other words, if pre-treatment severity of depression were controlled, perhaps the predictive value of attendance and homework would reduce or even disappear. While it would be ideal to control for the effects of pre-treatment severity of depression, and indeed pre-treatment severity of all core measures in every regression, due to the small sample size, the results of such analyses would be questionable. To deal with this problem in the current study, a number of regressions had to be performed with very few predictors in each. By not including all predictors into the same model, each model was only able to control for predictors which were entered, which is also problematic.

This issue is particularly pertinent with respect to the predictive value of depression and homework compliance. In one series of regressions greater severity of pre-treatment depression was predictive of poorer improvement in evaluative fears and avoidance. A further series of regressions found that poorer homework compliance was predictive of less improvement in evaluative fears and depression. By interpreting
these results in isolation, one could say that greater homework compliance is predictive of improvement in evaluative fears. However the situation is more complex since pre-treatment depression was also found to be predictive of improvement in evaluative fears in the other series of regression. In addition, examination of the correlations shows that pre-treatment depression was associated with poorer homework compliance. Therefore it could be that the more depressed people are, the less homework they do, and the less improvement they experience in their evaluative fears.

It is not clear in this case which is more predictive of improvement – initial severity of depression, homework compliance, or both, since they were entered in separate regressions. Ideally this situation would be dealt with by incorporating the impact of depression severity and compliance measures (homework and attendance) into the same regression, as the regression would remove the relationship pre-treatment depression severity has with homework and attendance. Unfortunately, due to the low sample size this was inappropriate, and the situation remains uncertain. It is unclear whether homework would continue to be a significant predictor of change in evaluative fears if entered alongside attendance and depression. It could be that depression may surpass these measures as a predictor and render one or both of the compliance measures non-significant in their predictive value. Fortunately, the finding that greater homework compliance was predictive of improvement in depression is less complex. This is because the regression removes the relationship between pre-treatment severity of depression and the degree of homework compliance.
With these limitations in mind, it is clear that attendance and homework compliance are still importantly related to improvement, however there are the additional limitations with the measurement of homework in the current study, as previously discussed. Techniques can be employed to increase homework compliance (see Antony, Ledley, & Heimberg, 2005; Kazantzis et al., 2005) which are likely to beneficial. However, a further complexity in this picture is whether it is the completion of the homework content that is important, or a more general motivation to engage fully with therapy and all that goes with it. It is not possible to answer this question in the current study. However in either case, motivation is likely to be important – whether it be because that is what is truly important, or whether it makes it more probable clients will do their homework and attend therapy. This issue warrants further research.

Some insight into the motivation for change may come indirectly from comparing the patterns of change for best and worst responders. Worst responders’ pre-treatment severity of fear of negative evaluation and avoidance are similar to that of best-responders. Best responders have high subjective anxiety which reduces during therapy. Worst responders’ subjective anxiety levels on the other hand are substantially lower and remain low throughout treatment. This may reflect the best responders greater motivation to overcome their social phobia since it is causing substantial general distress. Conversely, worst responders may have little impetus for change since their general distress is less intense. Whether this is due to their symptoms being less troublesome, or whether they are able to sufficiently avoid anxiety provoking situations is unclear. It is possible that worst responders subjective anxiety remains less intense throughout treatment because they are not engaging in
exposures or doing their homework, whereas best responders are initially distressed, but this is reduced during therapy.

The importance of motivation has not been assessed in the current study, however the current results in this thesis suggest it may be an important area to explore further. Motivational Interviewing (Miller & Rollnick, 2002) is a client centred, non-confrontational, interviewing style used largely in the area of substance abuse, and is proving useful in a growing range of disorders (Hettema, Steele, & Miller, 2005). One of the core concepts in MI involves amplifying the ambivalence an individual feels about change by intensifying the discrepancy between where they are now and where they would like to be. When this ambivalence becomes too uncomfortable, the hope is that the client will resolve their ambivalence and commit to a path that is more conducive with their desired goals. CBT for Social Phobia asks people to come face to face with their fears, which the individuals is well aware will provoke their anxiety. An individual with social phobia may well feel ambivalent about whether to engage in such tasks (Westra, 2004). Recently, a small number of studies have found an adapted form of MI to be a tremendously useful adjunct to CBT in the areas of anxiety and depression (Arkowitz & Westra, 2004; Westra, 2004; Westra & Phoenix, 2003). In addition, there have been some promising results when the usefulness of MI has been explored in the area of treatment adherence (Hettema et al., 2005).
CLINICAL IMPLICATIONS

On average, the ADS sample, though being more severely impaired prior to treatment than socially phobic samples in the literature, experienced greater therapeutic change than that usually found in efficacy studies (Taylor, 1996). This is an encouraging finding since it indicates that the CBT techniques used in this routine clinical practice are at least as effective as that reported in studies tending to employ strict manualised treatments and “purer” samples. When therapeutic gains of individual participants are examined, it becomes clear that while some individuals experienced dramatic improvement, some participants experienced little change and reported severe fears and avoidance at the completion of group therapy.

Further investigation found that pre-treatment severity of depression, greater attendance, and increased homework compliance were significantly predictive of greater improvement on some, but not all, core measures of social phobia and depression. While it is possible that pre-treatment severity of evaluative fears, avoidance, and depression influence clients’ degree of attendance and homework compliance, these could not all be controlled for due to the small sample size.

In either case, a number of important treatment implications emerge. Depression is commonly found alongside social phobia, and incorporating some therapy time early in treatment may prevent its possible undermining influence, improve outcomes for those who may otherwise respond poorly, and be beneficial to many members of the group (Chambless et al., 1997; Scholing & Emmelkamp, 1999). Homework compliance is an important part of CBT, and techniques can be employed to increase
compliance with assigned homework tasks (Antony et al., 2005; Kazantzis et al., 2005). In terms of improving treatment adherence and outcomes in general, motivational interviewing has shown some promising results in the limited research which has been conducted, testing its usefulness in anxiety and depression (Arkowitz & Westra, 2004; Westra, 2004; Westra & Phoenix, 2003).
LIMITATIONS

A number of limitations are present in the current study. Most notable is the small sample size, and consequential reduction statistical power. Having said that, surprisingly strong effects were obtained. One of the advantages of the current study was the effectiveness of a group CBT therapy for social phobia in a naturalistic setting. A criticism of many efficacy studies is an overemphasis on internal validity at the expense of external validity, however in the current study the reverse is true. Since a non-experimental design was used, no control group was included, hence any gains over the course of therapy cannot be assumed to be a direct result of the therapy. That said, all participants in the current study had a formal diagnosis of Social Phobia, and the course of Social Phobia is thought to usually be lifelong (American Psychiatric Association, 2000; e.g., Brunello et al., 2000; Yonkers, Bruce, Dyck, & Keller, 2003). Given the current sample experienced more severe social anxiety than many social phobia samples reported in the literature, it is unlikely that their improvement over time is attributable to spontaneous remission.

In the current study, there was no interference in the existing therapy whatsoever, which had a number of disadvantages. These included having a variety of different therapists conducting groups, therapy content not being identical, and session times and length of treatment being inconsistent. With so much variability inherent in a naturalistic design, many variables were uncontrolled, and treatment fidelity was assessed only at a rudimentary level. Along similar lines, the only exclusion criteria was an inability to read English. This made our sample more representative than
“purer” samples in studies with stringent exclusion criteria, however introduced a new set of variables which were not controlled for.

In terms of measurement in the current study, all measures were self-report or clinician-rated. This is not ideal, however alternative measures such as behavioural tests were impractical. In addition, time periods between administrations of questionnaires was often short. In addition, long term follow-up data was not collected. Presence of personality disorder or alcohol and drug use were not controlled for, nor was subtype of social phobia. The importance of homework compliance, which became a substantial part of this thesis, was assessed only at a superficial level using the HCS.
The current study uses only self-report measures and clinician-rating scales. Such methods of data collection are not ideal. Future research could include more direct measures such as tapping participants’ on-line cognitions, perhaps by using video mediated recall (Ickes, Robertson, Tooke, & Teng, 1986), articulated thoughts in simulated situations (Davison, Robins, & Johnson, 1983; Davison, Vogel, & Coffman, 1997), or by having the participants rate their subjective units of distress before, during, and after, exposure tasks.

The current study uses only a single clinician-rating scale for measuring homework compliance. Future research could be carried out which more comprehensively assesses homework compliance in Group CBT for social phobia. For example, factors such as the content of homework assigned, the quality of homework compliance, therapist competence in assigning homework, and therapist bias in rating homework compliance could be assessed (Kazantzis et al., 2004).

Further research assessing the importance of motivation and determination on therapeutic change would be very informative. Investigation untangling the relative impact that motivation, depression, and compliance, have on outcomes, and the relationship between these variables, would be particularly valuable. Further research into the usefulness of Motivational Interviewing in Anxiety Disorders could be of great clinical importance (Miller & Rollnick, 2002; Westra, 2004; Westra & Phoenix,
2003). This adjunct to treatment could provide therapists with a new tool in assisting clients who might otherwise not respond well to therapy.

Studies on CBT therapies employed in naturalistic settings are clinically important. Replication studies could be carried out to determine the effectiveness of other group therapies provided by the ADS (e.g., a panic and agoraphobia group), as well as individual therapy. Research into the long term effectiveness of treatments provided in routine clinical practice would also be valuable. Effectiveness studies provide useful information on whether therapies which are comprehensively researched in the literature are effective in clinical practice. While it is important for therapists to keep up-to-date with clinical literature, for most therapists with a high case load, time is scarce. Consequently the accessibility and ease of application of research findings is important and could be further investigated.
References


Appendix A

Recruitment Documentation:
- Letter of Invitation to Participate in Research
- Information Sheet
- Response Slip
- Consent Form

Questionnaires:
- Brief Version of the Fear of Negative Evaluation Scale (BFNE) (Leary, 1983)
- Fear Questionnaire - Social Phobia Subscale (FQ-SPS) (Marks & Mathews, 1979)
- Depression Anxiety Stress Scale 21 (Lovibond & Lovibond, 1995)
- Probability Cost Questionnaire (PCQ) (Foa et al., 1996)
- Self Efficacy in Social Situations (SESS) (Gaudiano & Herbert, 2003)
- Credibility/Expectancy Questionnaire (CEQ) (Devilly & Borkovec, 2000)
- Homework Compliance Scale (HCS) (Primakoff et al., 1986)
- Attendance Record
- Curriculum Record

Note all questionnaires administered are available in the public domain, with the exception of the PCQ for which the developers provided the items upon request, at no charge. Permission from the developers of the PCQ (Foa, Frankin, Perry, & Herbert, 1996) should be obtained for any use of this questionnaire.
Re: Opportunity to Participate in Research

Dear

As you will be aware, the social phobia group you may be involved in is scheduled to begin soon. We are currently working with the University of Canterbury in conducting research looking at how social phobia group therapy helps people with social phobia. Marion Rudge is the principal researcher. Marion is in a Clinical Psychology Training Programme, and she is conducting this research as part of her Masters research in Psychology.

Enclosed is an information sheet explaining this research. It involves filling out five questionnaires throughout your therapy, and in total will take about an hour and a half of your time (spread over 5 points in time). Participating in this research is entirely voluntary, and you will still receive exactly the same treatment whether you decide to participate or not. There are however some benefits in participating. Firstly, you will be given a $10 petrol voucher to reimburse you for your time and effort. Secondly, you will have the opportunity of receiving personalised feedback on how you have progressed through therapy based on the information from your questionnaires. Thirdly, your participation will help to make treatments more effective in the long run.

We would like to encourage and welcome your participation in this research. If you wish to be involved in this research, then all you need to do is email, write, or telephone Marion as soon as possible. A stamped, addressed envelope and response slip are enclosed. If you would prefer to contact Marion by telephone or email, her contact details are:

Telephone: 364 2987 (extension 3635)

Email: mja74@student.canterbury.ac.nz

Alternatively, just come along thirty minutes before the first social phobia group session begins.

If you choose to participate, the first questionnaire would need to be filled out before the first social phobia group session begins. This questionnaire could be posted out to you, or you may choose to fill it out when you come in for your goal setting appointment, or you may choose to come along thirty minutes before the first social phobia group session begins and fill it out then.

Best Regards,

Ron Chambers
Anxiety Disorders Service

Marion Rudge
University of Canterbury
INFORMATION SHEET


You are invited to take part in research which aims to explore how social phobia group therapy helps people with social phobia.

Participating in this research is entirely voluntary (your choice). You do not have to take part in this study, and if you choose not to take part it will not affect your treatment in any way (you will still receive the therapy whether you participate or not). This study is student research and will be observing and tracking changes as you progress through the treatment which the Anxiety Disorders Service runs. It does not provide or change your treatment in any way.

This study will involve filling out questionnaires at 5 points in time over the course of your group therapy:

- 1 questionnaire before the group therapy begins.
- 3 questionnaires over the course of the therapy.
- 1 questionnaire after the last group therapy session.

To reimburse you for your time and effort, you will be given a $10 petrol voucher for completing all the questionnaires in this study.

Each questionnaire will take about 20 minutes to complete, and you will be asked to fill them out when you come along to your group therapy session. If you do agree to take part you are free to withdraw from the study at any time, and stop filling out the questionnaires, without having to give a reason. This will in no way affect your future or continuing treatment.

You will also be asked to consent to the researchers having access to information on any medications you are on, questionnaires you fill out for the Anxiety Disorders Service, your diagnoses from your assessment interview, and whether or not you receive any extra individual therapy from the Anxiety Disorders Service at any point over the course of the social phobia group. This information is important because it will affect the results of the study.

Why would I want to participate?

- Personalised feedback - If you participate, you will be offered the opportunity to have a summary of your questionnaire results (your progress through treatment) discussed with you when you attend the follow-up session with a therapist after the group sessions have come to an end so you can see in what areas you have improved and changed.
- By participating in this study, you will be helping to improve treatments for Social Phobia in the long run.

What are the risks / inconveniences of this study?

If you participate in this study, you will need to fill out a questionnaire at 5 points in time over the course of the therapy. Each questionnaire will take about 20 minutes to complete. There is a very small chance that you may feel upset after filling out a questionnaire.

I would like to participate in this research – What do I do next?

If you want to be involved in this research, then all you need to do is email, write, or telephone the principal researcher (Marion Rudge) whose contact details are at the end of this information sheet (over the page). Alternatively, just come along thirty minutes early for your first social phobia group session. The first questionnaire would need to be completed before the first group session begins. This could be posted out to you, or you may choose to fill it out when you come in for your goal setting appointment, or you may choose to come along 30 minutes before the first social phobia group session begins and fill it out then.
I want to know more about this study

Everyone who is going to be involved in a social phobia group run by the Anxiety Disorders Service will be invited to participate in this research. It is hoped that by the end of 2006 we will have about 80 participants. The information we collect is important because it will help to improve therapy in the long run.

All the information collected will be kept confidential to the researchers and the Anxiety Disorders Service. A summary of the results from your questionnaires will become part of your patient file and will be treated the same as all the other information the Anxiety Disorders Service currently holds about you. When the group therapy is finished, the Anxiety Disorders Service will discuss your future care with you, however your participation in this study will come to an end after the last session of group therapy. All information will be stored either in the Anxiety Disorders Service storage system or in secure storage at the University of Canterbury. After this study is completed, and legal time requirements (minimum 6 years) for keeping the original questionnaires have been met, only the pooled results will be kept. All other information will be shredded to make sure confidentiality is maintained. No material which could personally identify you will be used in any public reports on this study.

If you would like more information about this study, please feel free to contact the main researcher, Marion Rudge, whose details are at the end of this information sheet. You are very welcome to have a friend, family or whanau support to help you understand the risks and/or benefits of this study and any explanation you may require. This study has been developed in consultation with Nga Ratonga Hauora Maori (Maori Health Services), and has received ethical approval from the Upper South A Ethics Committee.

Is there anyone who cannot participate?

Unfortunately we are unable to include people who cannot read English in this research. This is because the questionnaires are written in English and reading them aloud or having an interpreter translate them may make the results less dependable. A person’s participation in this study may stop if any harmful effects appear or if the therapist feels it is not in your best interests to continue.

What if I have concerns or an emergency during my participation in this study?

If at any point in time during your participation in this study you feel upset or distressed, you have several options:

- You may contact your group therapist, or case co-ordinator at the Anxiety Disorders Service.
- If you are in an emergency, and you cannot contact your therapist, you should follow the procedures your therapist at the Anxiety Disorders Service gave you. One of these was the option of telephoning Psychiatric Emergency Services on 364 0482 or 0800 920 092.

If you have any queries or concerns regarding your rights as a participant in this study you may wish to contact a Health and Disability Advocate on:
Christchurch 03 377 7501
South Island except Christchurch 0800 377 7501

If you have any concerns or questions regarding participation in this research, you are very welcome to contact the researchers:

Researchers:

<table>
<thead>
<tr>
<th>Principal Researcher</th>
<th>Research Supervisor</th>
<th>Research Supervisor</th>
<th>Research Supervisor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marion Rudge</td>
<td>Mr Ron Chambers</td>
<td>Dr Helen Colhoun</td>
<td>Assoc Prof Neville</td>
</tr>
<tr>
<td>Psychology Department</td>
<td>Anxiety Disorders</td>
<td>Anxiety Disorders</td>
<td>Blampied Psychology</td>
</tr>
<tr>
<td>University of Canterbury</td>
<td>Level 1, Securities</td>
<td>Level 1, Securities</td>
<td>Department</td>
</tr>
<tr>
<td>Private Bag 4800</td>
<td>House</td>
<td>House</td>
<td>University of</td>
</tr>
<tr>
<td>Christchurch</td>
<td>221 Gloucester St</td>
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<td>Canterbury</td>
</tr>
<tr>
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</tr>
<tr>
<td><a href="mailto:mja74@student.canterbury.ac.nz">mja74@student.canterbury.ac.nz</a></td>
<td>Ph: 353 5982</td>
<td>Ph: 353 5976</td>
<td>Christchurch</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Ph: 364 2199</td>
</tr>
</tbody>
</table>
If you are interested in being involved in this research, then all you need to do is contact the principal researcher (Marion Rudge). There are four options of how to express your interest:

**Option 1**

Email Marion: mja74@student.canterbury.ac.nz

**Option 2**

Phone Marion: 364 2987 x 3635

**Option 3**

Post: Simply fill in your details below and post it to Marion in the freepost envelope provided.

I am interested in being involved in this research on how social phobia group therapy helps people with social phobia.

Name: ____________________________________________

Email: ____________________________________________

Postal Address : ____________________________________

__________________________________________________

__________________________________________________

Phone Number: ____________________________________

Cell Phone Number: ________________________________

*(Simply post this response form in the freepost envelope provided)*

**Option 4**

Alternatively, just come along thirty minutes early to your first social phobia group session.

The first questionnaire would need to be completed before the first group session begins. This could be posted out to you, or you may choose to fill it out when you come in for your goal setting appointment, or you may choose to come along 30 minutes before the first social phobia group session begins and fill it out then.
CONSENT FORM


I have read and I understand the information sheet which was posted out to volunteers taking part in this study. I understand this study is designed to see how Social Phobia Group Therapy helps people with Social Phobia.

I have had time to consider whether to take part and I have also had the opportunity to discuss this study and I am satisfied with the answers I have been given.

I have had the opportunity to use whanau support or a friend to help me ask questions and understand the study.

I understand that taking part in this study is voluntary (my choice) and that I may withdraw from the study at any time (without having to give a reason) and this will in no way affect my future or continuing health care.

I understand that participation in this study may be stopped in the unlikely event that harmful effects appear or if the therapist feels it is not in my best interests in continue.

I understand that the researchers will be given access to information on any medications I may be on, diagnoses from my assessment interview, questionnaires I fill out for the Anxiety Disorders Service, and whether or not I receive any extra individual therapy from the Anxiety Disorders Service while the Social Phobia Group is running.

I understand that my participation in this study is confidential to the researchers (listed at the bottom of this sheet) and the Anxiety Disorders Service. A summary of the results from my questionnaires will become part of my patient file and will be treated the same as all the other information the Anxiety Disorders Service currently holds about me. The outcomes of this research may include the study results being published in scientific journals and a research thesis. No material which could identify me will be used in any public reports on this study.

I know who to contact if I have any questions about this study, or if I have any concerns, or feel upset.

Feedback
I would like a summary of my questionnaire results (my progress through this treatment) to be discussed with me when I attend the follow-up session with a therapist after the group sessions have come to an end. **If you would like to have this personalised feedback, please tick the box ... ☐**

When this research is completed (estimated to be early 2007), you are welcome to have a summary of what we learnt about how social phobia group therapy helps people with social phobia (the outcomes of the entire research study) mailed out to you. **If you choose this option, please tick the box ... ☐**

I __________________________________________ hereby consent to take part in this study.

Signature: ___________________ Date: ___________________

Project Explained by: ___________________ Marion Rudge, Principal Researcher ___________________ Date: ___________________

Researchers:

<table>
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<td>Ph: 353 5976</td>
<td>Ph: 364 2199</td>
<td></td>
</tr>
</tbody>
</table>
Read each of the following statements carefully and indicate how characteristic it is of you according to the following scale:

1 = Not at all characteristic of me
2 = Slightly characteristic of me
3 = Moderately characteristic of me
4 = Very characteristic of me
5 = Extremely characteristic of me

1. I worry about what other people will think of me even when I know it doesn’t make any difference....................................................... ____
2. I am unconcerned even if I know people are forming an unfavourable impression of me................................................................. ____
3. I am frequently afraid of other people noticing my shortcomings........... ____
4. I rarely worry about what kind of impression I am making on someone…. ____
5. I am afraid that others will not approve of me................................. ____
6. I am afraid that people will find fault with me. ............................... ____
7. Other people’s opinions of me do not bother me. ............................. ____
8. When I am talking to someone, I worry about what they may be thinking about me................................................................. ____
9. I am usually worried about what kind of impression I make............. ____
10. If I know someone is judging me, it has little effect on me................____
11. Sometimes I think I am too concerned with what other people think of me. ____
12. I often worry that I will say or do the wrong things.......................... ____
Choose a number from the scale below to show how much you would avoid each of the situations listed below because of fear or other unpleasant feelings. Then write the number you chose in the space opposite each situation.

<table>
<thead>
<tr>
<th>Would not avoid</th>
<th>Slightly avoid it</th>
<th>Definitely avoid it</th>
<th>Markedly avoid it</th>
<th>Always avoid it</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td></td>
</tr>
</tbody>
</table>

1. Eating or drinking with other people........................................... _____
2. Being watched or stared at........................................................... _____
3. Talking to people in authority....................................................... _____
4. Being criticised.................................................................................. _____
5. Speaking or acting to an audience.................................................... _____
[Example of the DASS21 Questionnaire]

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 to a considerable degree, or a good part of 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 (eg, 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 over-react to situations............................................. 0 1 2 3
7. I experienced trembling (eg, 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 (eg, 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
Choose a number from the scale below to indicate *how likely* it is that the following events will happen to you. Write the number in the space provided.

<table>
<thead>
<tr>
<th>Scale</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Not at all</td>
</tr>
<tr>
<td>1</td>
<td>A little</td>
</tr>
<tr>
<td>2</td>
<td>Moderately</td>
</tr>
<tr>
<td>3</td>
<td>Very</td>
</tr>
<tr>
<td>4</td>
<td>Extremely</td>
</tr>
</tbody>
</table>

How *likely* is it that…

1. You will get stomach ulcers.
2. While you are talking with several people, one of them will leave.
3. You will miss a favourite television program this week.
4. You will unexpectedly be called in to see your supervisor at work.
5. You will catch the flu.
6. You will have trouble getting your words out while talking.
7. You will have a small fire in your home.
8. At a party, others will notice that you are nervous.
9. You will lose your purse or wallet.
10. You will be ignored by someone you know.
11. Your car will have a flat tyre soon.
12. You will feel shy around other people.
13. Your stereo will break down soon.
14. Someone you know won’t say hello to you.
15. You will find that you are $50.00 overdrawn on your cheque account.
16. You will do something foolish in public.
17. You will be mugged, but not seriously hurt.
18. You will blush while being introduced to a new person.
19. You will be caught outside in the rain without a coat or umbrella.
20. You will feel inferior to others.
21. You will have a minor accident in your car.
22. You will sound dumb while talking to others.
23. You will lock your keys in your car.
24. You will feel embarrassed by something you did.
25. You will lose your house keys.
26. You will be turned down when you ask someone out.
27. You will get a letter from a collection agency regarding an overdue bill.
28. People will think you are boring.
29. A burglar will break into your home while you are away.
30. During a job interview, you will freeze.
31. Someone will steal your car.
32. You will feel flustered in front of others.
33. You will be stuck in a traffic jam for over an hour.
34. Strangers will notice you as you pass them on the street.
35. You will sprain your ankle.
36. You will avoid introducing yourself to another person.
37. You will have a small flood in your bathroom.
38. You will leave a social function as soon as you possibly can.
39. You will be audited by the Tax Department.
40. You will walk into a meeting late.
Choose a number from the scale below to show how bad or distressing each of the following events would be for you. Write the number in the space provided.

<table>
<thead>
<tr>
<th>Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Not at all</td>
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<td>Extremely</td>
</tr>
</tbody>
</table>

How bad would it be for you...

1. To get stomach ulcers
2. To have someone leave while you are talking to several people
3. To miss a favourite television program this week
4. To unexpectedly be called in to see your supervisor at work
5. To catch the flu
6. To have trouble getting your words out while talking
7. To have a small fire in your home
8. To have others at a party notice that you are nervous
9. To lose your purse or wallet
10. To be ignored by someone you know
11. To have a flat tyre soon
12. To feel shy around other people
13. To have your stereo break down soon
14. To have someone you know not say hello to you
15. To find that you are $50.00 overdrawn on your cheque account
16. To do something foolish in public
17. To be mugged, but not seriously hurt
18. To blush while being introduced to a new person
19. To be caught outside in the rain without a coat or umbrella
20. To feel inferior to others
21. To sound dumb while talking to others
22. To have a minor accident in your car
23. To lock your keys in your car
24. To feel embarrassed by something you did
25. To lose your house keys
26. To be turned down when you ask someone out
27. To get a letter from a collection agency regarding an overdue bill
28. To have people think you are boring
29. To have a burglar break into your home while you are away
30. To freeze during a job interview
31. To have someone steal your car
32. To feel flustered in front of others
33. To be stuck in a traffic jam for over an hour
34. To have strangers notice you as you pass them on the street
35. To sprain your ankle
36. To avoid introducing yourself to another person
37. To have a small flood in your bathroom
38. To leave a social function as soon as you possibly can
39. To be audited by the Tax Department
40. To walk into a meeting late
Circle a number to indicate your answer to each question.

1. One reason some people have difficulties in certain social situations is because they don’t believe they have the skills necessary to do a good job. How confident are you that you have the basic skills to perform well in social situations?

Not at all Confident 1 2 3 4 5 Somewhat Confident 6 7 8 Very Confident 9 10

2. How much do you think that any shortcomings you may have in social skills will bother you in social situations?

Not at all Bothersome 1 2 3 4 5 Somewhat Bothersome 6 7 8 Very Bothersome 9 10

3. Is it possible for you to perform well in social situations in spite of any weaknesses you may have in social skills?

Not at all Possible 1 2 3 4 5 Somewhat Possible 6 7 8 Very Possible 9 10

4. One reason that some people may have difficulties in certain social situations is because they are bothered by thoughts and worries that enter their mind. How well are you able to handle your thoughts and worries during social situation?

Not at all Confident 1 2 3 4 5 Somewhat Confident 6 7 8 Very Confident 9 10

5. How much do you think your thoughts and worries bother you during social situations?

Not at all Bothersome 1 2 3 4 5 Somewhat Bothersome 6 7 8 Very Bothersome 9 10

6. Is it possible for you to perform well in social situations without dismissing bothersome thoughts and worries from your mind?

Not at all Possible 1 2 3 4 5 Somewhat Possible 6 7 8 Very Possible 9 10

7. One reason some people may have difficulties in certain social situations is because they are bothered by their nervousness. How well are you able to handle your nervousness during social situations?

Not at all Confident 1 2 3 4 5 Somewhat Confident 6 7 8 Very Confident 9 10
8. How much does your nervousness bother you during social situations?

<table>
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<th>2</th>
<th>3</th>
<th>4</th>
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<td>Botherome</td>
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9. Is it possible for you to perform well during social situations without directly doing something about your nervousness?

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</table>
We would like you to indicate below how much you believe, right now, that the therapy you are receiving will help to reduce your anxiety. Belief usually has two aspects to it: (1) what one thinks will happen and (2) what one feels will happen. Sometimes these are similar; sometimes they are different. Please answer the questions below. In the first set, answer in terms of what you think. In the second set answer in terms of what you really and truly feel.

Set I

1. At this point, how logical does the therapy offered to you seem?

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2. At this point, how successfully do you think this treatment will be in reducing your anxiety symptoms?

<table>
<thead>
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<th>4</th>
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<th>7</th>
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<th>9</th>
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3. How confident would you be in recommending this treatment to a friend who experiences similar problems?

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<th>4</th>
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<th>7</th>
<th>8</th>
<th>9</th>
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<tbody>
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</tbody>
</table>

4. By the end of the therapy period, how much improvement in your anxiety symptoms do you think will occur?

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

Set II

For this set, close your eyes for a few moments, and try to identify what you really feel about the therapy and its likely success. Then answer the following questions.

1. At this point, how much do you really feel that therapy will help you to reduce your anxiety symptoms?

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<th>4</th>
<th>5</th>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. By the end of the therapy period, how much improvement in your anxiety symptoms do you really feel will occur?

   | 0% | 10% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 100% |
Dear Clinician,

It would be great if you would please complete these two questionnaires/scales after each social phobia group therapy session.

Thankyou for your help!
Marion Rudge.

**Homework Compliance Scale and Attendance Record**

For each participant listed below, please assign a score that best describes their *homework compliance* based on the following rating scale:

1. The patient did not attempt the assigned homework.
2. The patient attempted the assigned homework but was unable to execute it for reasons such as lack of ability or extenuating circumstances.
3. The patient did homework that was different from that assigned, but that would be considered “relevant” to cognitive therapy and the patient’s particular target problems; e.g., the patient has been given the assignment to challenge the idea that he or she is physically unattractive by writing a history or when friends and/or romantic partners have contradicted this idea. Instead, the patient chose to ask the two women he is currently dating what they think of his attractiveness.
4. The patient did a portion of the assigned homework. (This part of the rating scale might be expanded to include percentages of assigned homework completed: e.g., 25%, 50%, 75%.)
5. The patient did the assigned homework.
6. The patient did more of the assigned homework than was requested.

<table>
<thead>
<tr>
<th>Participant Name</th>
<th>Homework Score</th>
<th>Attended this Session</th>
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</tbody>
</table>

Date

Therapist Name

PTO >>
Areas Covered in Therapy

Date: ____________

Name: ________________________________

Session Start Time: ____________  Session End Time: ____________

Please tick the areas that were covered in this treatment session, and indicate the approximate percentage/proportion of the session that was spent on that area:

☐ __%  Explanation of rationale/treatment model

☐ __%  Attention Training

☐ __%  Safety Behaviour Work

☐ __%  Avoidance Work

☐ __%  Social Skills Work

☐ __%  Breathing Retraining

☐ __%  Cognitive Restructuring

☐ __%  Exposure Work

☐ __%  Overlearning Tasks

☐ __%  Relapse Prevention

☐ Other - please specify

☐ __%  ________________________________

☐ __%  ________________________________

☐ __%  ________________________________

☐ __%  ________________________________  P T O >>
Appendix B
Means and Standard Deviations at Wave Two for Each Group, and the Entire Sample.

<table>
<thead>
<tr>
<th>Measure</th>
<th>Group 1 (n = 4)</th>
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<th>Group 3 (n = 9)</th>
<th>Entire Sample (N = 18)</th>
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<td>Valid N</td>
<td>M</td>
<td>SD</td>
<td>Valid N</td>
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<tr>
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<td>Avoidance (FQ-SPS)</td>
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Note: Valid N = Number of valid questionnaires used in that calculation.
Means and Standard Deviations at Wave Three for Each Group, and the Entire Sample.

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<td>SD</td>
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Note: Valid N = Number of valid questionnaires used in that calculation.
Means and Standard Deviations at Wave Four for Each Group, and the Entire Sample.

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<td>SD</td>
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Note: Valid N = Number of valid questionnaires used in that calculation.
Means and Standard Deviations at Wave Five for Each Group, and the Entire Sample.

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Note: Valid N = Number of valid questionnaires used in that calculation.
# Appendix C

**Consistent Correlates of Non-Core Measures.**

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<th>Wave 4</th>
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<td></td>
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<td></td>
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<tr>
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<td>-0.50</td>
<td>n.s</td>
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Note:
- Only ‘consistent relationships’ are reported. That is, when two variables correlate significantly (alpha of <.05) within at least 3 of the 5 waves.

**Abbreviations:** BFNE=Fear of Negative Evaluation – Brief Version; FQ-SPS=Self-reported Avoidance; ANX=Self reported subjective Anxiety (Anxiety subscale on DASS21); DEPR=Depression subscale on DASS21; SOC PROB=Social Probability subscale on PCQ; SOC COST=Social Cost subscale on PCQ; SESS=Self Efficacy in Social Situations; CRED=Credibility subscale on CEQ; EXPECT=Expectation subscale on CEQ.
Appendix D

Correlations between Wave Five Non-Core Measures and Wave One Measures.

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Notes:
- Only correlations significant to p<.05 level are reported.
- *Homework and Attendance scores are scores which represent compliance and attendance over the entire treatment period, and are not calculated by wave.

Abbreviations: BFNE=Fear of Negative Evaluation – Brief Version; FQ-SPS=Self-reported Avoidance; ANX=Self reported subjective Anxiety (Anxiety subscale on DASS21); DEPR=Depression subscale on DASS21; SOC PROB=Social Probability subscale on PCQ; SOC COST=Social Cost subscale on PCQ; SESS=Self Efficacy in Social Situations; CRED=Credibility subscale on CEQ; EXPECT=Expectation subscale on CEQ
Correlations between All Wave One and Wave Five Measures (Including Non-Significant Correlations)

<table>
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Notes:
* = p<.05; **=p<.01

Abbreviations: BFNE=Fear of Negative Evaluation – Brief Version; FQ-SPS=Self-reported Avoidance; ANX=Self reported physiological Anxiety (Anxiety subscale on DASS21); DEPR=Depression subscale on DASS21; SOC PROB=Social Probability subscale on PCQ; SOC COST=Social Cost subscale on PCQ; SESS=Self Efficacy in Social Situations; CRED=Credibility subscale on CEQ; EXPECT=Expectation subscale on CEQ.
Appendix F

Charts of Best- and Worst-Responders.

Change scores were computed for each participant based on pre- to post-treatment change on the BFNE. Participants with change scores in the upper quartile were classified as “Best Responders”. Participants with change scores in the lower quartile were classified as “Worst Responders”. Charts displaying pre- to post-treatment change on the Core Measures are shown below. Each chart plots individual data and group mean, for either the “Best Responder” or “Worst Responder” group.

![Fear of Negative Evaluation (BFNE) Results of Best Responders](chart1)

![Fear of Negative Evaluation (BFNE) Results of Worst Responders](chart2)