Title:

Cognitive Behavioural Therapies for Social Anxiety Disorder: A Systematic Review of Current Theories and Research

Submitted as part fulfilment of the requirements of the qualification of the Doctorate in Clinical Psychology from the School of Psychology, University of Exeter

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(Excluding references)
Cognitive Behavioural Therapies for Social Anxiety Disorder: A Systematic Review

1.0 Introduction

Social anxiety disorder (SAnD/social phobia) is listed in the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR; APA, 2000) and the International Classification of Diseases 10 (ICD-10; WHO, 1992) alongside other anxiety disorders (e.g., panic disorder). SAnD is characterised by an intense fear of social or performance situations where the individual worries about being humiliated, embarrassed or scrutinised by others (APA, 2000). Once viewed as a neglected disorder it has become increasingly research over the last 25 years (Liebowitz, Gorman, Fyer, & Klein, 1985). SAnD is now understood to be a highly prevalent disorder (Kessler, 2003) associated with significant impairments in social, psychological, and occupational functioning (Smit, Powers, Buxkamper, & Telch, 2006). Patients' report a preference for psychological therapies for SAnD compared with pharmacological therapies due to adherence rate problems, side effects, possible dependency (Hunot, 2007) and frequent relapse of symptoms when medications are discontinued (Riedel-Heller, 2005; Churchill, 2005).

Psychological therapies for SAnD could fall under one of five broad categories, cognitive and behavioural approaches (Beck, Emery, & Green, 1985; Butler, 1985; Clark & Wells, 1995; Rapee & Heimberg, 1997; Rachmann, 1977; Skinner, 1953), psychoanalytic/dynamic (Klein, 1960; Leichsenring et al., 2009a), humanistic (Perls, 1976; Rogers, 1951), integrative (Lipsitz, Markowitz, & Cherry, 1997) and third-wave cognitive behavioural therapies (CBT) (Gilbert, 2005; Hayes, 2004; Teasdale, 2000; Wells, 2000).

Given the considerable literature in this area, and because the findings from single trials are less reliable and are likely to be underpowered to observe the true effects of treatments it was decided to review the meta-analyses which summarised the current evidence for the efficacy of psychological therapies for SAnD.
Several meta-analyses assessed the efficacy of psychological interventions (i.e. either cognitive behavioural therapy and behavioural therapy) for SAnD: Acarturk, Cuijpers, van Straten and Graaf (2009), Feske and Chambless (1995), and Taylor (1996), as well as compared psychological therapies with pharmacological treatments, Banderlow, Seidler-Brandler, Becker, Wedekind and Ruther (2009), Federoff and Taylor (2001), and Gould, Buckminster, Pollack, and Otto (1997). However, no systematic reviews or meta-analyses were found for humanistic, psychodynamic, integrative, or third-wave CBT therapies for SAnD. In short, these CBT reviews postulate that cognitive behavioural and behavioural therapies are effective treatments for SAnD, as effective as pharmacological treatments (Banderlow et al., 2009; Gould et al., 1997). However, the finding from these reviews and meta-analyses must be held tentatively given a number of salient clinical and methodological flaws which constrain the validity and generalizability of their findings. In addition, these reviews were conducted in 2009 therefore need updating.

To date, no well-conducted high quality Cochrane systematic review of the effects of cognitive behavioural therapies for SAnD has been conducted. Therefore, an up to date comprehensive summary of the evidence on cognitive behavioural therapies for SAnD which accounts for the clinical and methodological heterogeneity flaws in previous reviews is required. The findings of this review will guide health care as well as supporting treatment decision-making around the management of this disorder. In summary, the aim of this review is to critically appraise meta-analyses relevant to the effectiveness of cognitive behavioural treatments for social anxiety disorder.

2.0 Outline of the Review

The review will first provide a definition of SAnD, along with the diagnostic criteria, and any epidemiological data on its prevalence. The main psychological theories that
account for the development and maintenance of SAnD will be considered next. Then an outline of the search methods used to gather systematic reviews and meta-analyses on the effectiveness of psychological interventions for SAnD will be given. A summary of the evidence from these reviews and meta-analyses, and a summary of the quality of this evidence will be provided. A critical appraisal of the research methodologies will be undertaken and the clinical implications of this assessment will be outlined, and finally conclusions will be based on the evidence.

3.0 SAnD Conceptual and Definitional Problems

3.1 The definition of SAnD. Social anxiety disorder or formerly known as “social phobia” was originally recognised as a distinct disorder during the 1960s (Marks & Gelder, 1965). SAnD is characterised by an intense fear of one or more social or performance situations where the individual fears being humiliated, embarrassed or scrutinised by others for not behaving in a manner consistent with the individual’s perceived social norms (APA, 2000). Individuals with SAnD recognise that this fear is excessive or unreasonable nevertheless, it interferes significantly with their social and occupational functioning (APA, 2000).

SAnD is defined and diagnosed using either the DSM-IV-TR (APA, 2000) criteria (See Table 1) or the ICD-10 (WHO, 1992). Feared social situations fall under three categories, interaction (e.g. communicating socially), performance (e.g. public speaking), and observation (working while being observed). SAnD (DSM-IV-TR, APA 2000) has two subtypes: SAnD, and performance-SAnD (e.g. speaking or performing in public) which is a qualitatively distinct category (Bögels 2010). SAnD has a stronger familial aetiology, an earlier age of onset and a more chronic course than performance-SAnD (Bögels 2010).


3.2 The prevalence of SAnD. SAnD is the third most common psychological disorder (Kessler, Berglund, Demler, Jin, Merikangas & Walters, 2005) with a lifetime prevalence of between 3 and 13% in North America (Kessler et al., 2005). It is more common in women than in men (ratio of 3 to 2) (Fehm, Pellissolo, Firmark, & Wittchen, 2005), has a typical onset in early adolescences (Wittchen & Fehm, 2003). If left untreated SAnD has an enduring, unremitting prognosis frequently leading to other psychological disorders (e.g., depression) (Stein, Jang, & Livesley, 2002). The psychological theories accounting for SAnD will be now be described.

Table 1.

*Social Anxiety Disorder Definition and Diagnostic DSM-IV-TR Criteria (APA, 2000) (all criteria are necessary for a diagnosis).*

<p>| | |</p>
<table>
<thead>
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<tbody>
<tr>
<td>a)</td>
<td>A marked and persistent fear of one or more social or performance situation in which a person is exposed to unfamiliar people or to possible scrutiny by others. The individual fears being embarrassed, humiliated or scrutinised by others.</td>
</tr>
<tr>
<td>b)</td>
<td>Exposure to feared social situation or anticipation of it provokes anxiety (e.g. situational panic attack).</td>
</tr>
<tr>
<td>c)</td>
<td>Recognition that fear is excessive or unreasonable.</td>
</tr>
<tr>
<td>d)</td>
<td>The feared situation is avoided or endured with distress.</td>
</tr>
<tr>
<td>e)</td>
<td>Avoidance, anticipation or the actual feared situation causes significant distress and impairment in social or performance functioning.</td>
</tr>
<tr>
<td>f)</td>
<td>Duration of at least six months for individuals under 18 years.</td>
</tr>
<tr>
<td>g)</td>
<td>The fear or avoidance cannot be accounted for by another medical or mental disorder.</td>
</tr>
<tr>
<td>h)</td>
<td>Specify, “generalised” if the fear encompasses most social situations.</td>
</tr>
<tr>
<td>i)</td>
<td>Typically associated with other symptoms: palpitations, tremulousness, blushing and</td>
</tr>
</tbody>
</table>
4.0 Psychological Theories for the Development and Maintenance of Social Anxiety Disorder (SAnD)

Theories fall into four categories: (a) cognitive theories (Beck, Emery & Greenbergs, 1985; Clark & Wells, 1995; Rapee & Heimberg, 1997) and behavioural theories (Rachman, 1977, (b) integrative theories (Lipsitz et al., 1997), and (c) psychodynamic theories (Leichsenring et al., 2009a)

4.1 Beck, Emery and Greenberg’s (1985) cognitive model of social anxiety disorder. Beck, Emery and Greenberg argued that SAnD results from the existence of dysfunctional beliefs that an individual holds about themselves and how they should conduct themselves in social situations (Musa & Lepine, 2000). Three classes of dysfunctional beliefs are held by the individual: excessively high standards of social conduct (e.g., “I must not show any signs of incompetence”); assumption beliefs about social evaluation (e.g., “If I make a mistake others will think I’m incompetent”); and stable beliefs about the self (e.g., “I am incompetent”). Once activated by a social situation these cognitive process interact to maintained SAnD (Musa et al., 2000). Thus, an individual with SAnD interprets the physiological symptoms of anxiety (e.g. heart racing) produced in social situations as evidence of their incompetence. This increases their self-focus on internal experiences and interferes with their capacity to interpret and respond appropriately to external social cues. The net effect is that it changes others behaviour towards them, confirming their worst fears (Musa et al., 2000). Moreover, in the absence of such an outcome, cognitive interpretive biases and threat biases make the individual more susceptible to misinterpret their behaviour and that of others as being negatively socially evaluated (Musa et al., 2000).
4.2 Clark and Wells’ (1995) cognitive model of social anxiety disorder. Clark and Wells’ model highlighted the salient effects of an attention shift from the external environment to internal experiences during a social situation for individuals with SAnD. This shift increases the individual’s awareness of their feared responses and negatively impacts on their processing of the situation and subsequently others change their behaviour towards them. Clark and Wells also describe behaviours known as “safety” and “avoidance” behaviours that individuals with SAnD use to reduce the risk of negative evaluation from others. Ironically, these behaviours act like a double edged sword, increasing the likelihood of the feared outcome happening (i.e. the “safety behaviour” of wearing a jacket indoors to prevent others seeing you perspire causes you to perspire more). Furthermore, when these individuals use “safety” and “avoidance” behaviours and the feared outcome does not occur, they attribute the non-occurrence to the behaviours and not the fact that their beliefs were erroneous.

4.3 Rapee and Heimberg’s (1997) cognitive model of social anxiety disorder.

Rapee and Heimberg (1997) proposed model shares many of the characteristics of Clark and Wells (1995) model. However, the key difference is that Rapee and Heimberg postulated that when an individual anticipates or enters a social situation they form a mental representation of themselves as seen by the others. This representation is influenced by factors such as memory, physical symptoms, and social feedback. A comparison is then made between the mental representation of the self (as seen by others) and the perceived norm others would expect for the social situation (Musa & Lepine, 2000). The larger the difference between the two, the higher the chance of negative evaluation from others. This predicted negative evaluation results in anxiety in the social situation thus, further negatively influencing the individual’s representation of themselves and their subsequent behaviour, maintaining the process (Musa et al., 2000).
4.4 Learning models of social anxiety disorder. In 1977, Rachman proposed three ways that fears (e.g., social anxiety) could develop through negative learning experiences. They include: (a) direct conditioning, when a stimulus subsequently produces a fear response because it was associated with a traumatic event; (b) vicarious acquisition, induced through witnessing someone else have a traumatic fearful social experience; and (c) information pathways, learning that particular social contexts are aversive by information transmission (verbal, visual etc.) by others.

4.5 An integrative model of social anxiety disorder. Lipsitz and Markowitz tailored interpersonal therapy for the treatment of social anxiety disorder in 1997. The authors posit that SAnD is precipitated and perpetuated by an interaction between childhood temperament and negative early life and later life experiences. They argue that SAnD in maintained by the individual’s negative perception of their difficulties (e.g. I am weak), specific interpersonal problems (e.g. role transitions, role disputes, and grief), and a paucity of close and trusting relationships (Lipsitz et al., 1997).

4.6 A psychodynamic model of social anxiety disorder. Leichsenring and colleagues in 2009 argued that the symptoms of SAnD arise from unconscious core relationship conflicts rooted in early childhood experiences. The authors suggest that three core conflictual relationship themes (CCRT) exist for SAnD, (1) a wish to be affirmed by others, (2) a predicted response from others (e.g. ‘Others will humiliate me’), and (3) a response from the self (e.g. ‘I am afraid of exposing myself’) (NICE, 2013). The psychological treatments for SAnD will be given next.

5.0 Psychological Treatments for SAnD

5.1 Cognitive behavioural therapies for social anxiety disorder (SAnD). There are a number of psychological treatments for SAnD that fall under the rubric of cognitive
behavioural therapy (CBT). Initially termed cognitive therapy by Beck in 1979, CBT now also includes a range of techniques including behaviour strategies, cognitive restructuring, exposure therapy, cognitive therapy + exposure, social skills training, relaxation, and video tape feedback (Antony & Rowa, 2008). More recently third-wave CBT was developed, acceptance and commitment therapy (Hayes, 2004), mindfulness based cognitive therapy (Teasdale, 2000), compassion focused training (Gilbert, 2005), and meta-cognitive therapy (Wells, 2000). Cognitive behavioural therapy generally involves between 8 and 16 weekly 1-hour sessions in either individual or group formats (Anthony & Rowa, 2008).

5.2 Interpersonal therapy for social anxiety disorder (SAnD). Lipsitz et al. in 1997 highlight three stages in the treatment for SAnD, (1) shifting the individual’s perception of SAnD as a difficulty to be coped with rather than an inherent character weakness, (2) using role plays to encourage emotional expression and accurate communication to alleviate specific interpersonal problems (e.g. role transitions, role disputes, and grief), and (3) encouraging the development of a network of close trusting relationships (Lipsitz et al., 1997; NICE, 2013).

5.3 Psychodynamic therapy for social anxiety disorder (SAnD). The purpose of the intervention is to develop conscious awareness in the individual between their current symptoms and unconscious core conflictual relationship theme (CCRT) via the therapeutic relationship (Leichsenring et al., 2009a). Details on the search methods conducted to evidence systematic reviews and meta-analyses will follow.

6.0 Search Methods for Identification of Evidence

In order to understand what previous systematic reviews and meta-analyses were conducted a review was conducted using a structured search strategy. The inclusion criteria were published systematic reviews and meta-analyses on the effectiveness of psychological
therapies for SAnD. The exclusion criteria was narrative reviews. The databases Medline (FirstSearch) and PsycINFO were searched refined by abstract using the terms: social phobia, social anxiety, systematic review, and meta-analysis in August 2011 (see Appendix 1 for the further details on the search strategy). The reference lists of relevant retrieved papers were also searched. The searches yielded 254 studies of which six meet inclusion in the review

7.0 Evidence for the Effectiveness of Psychological Therapies for Social Anxiety Disorder (SAnD)

7.1 Cognitive behavioural therapies. The first systematic review and meta-analysis conducted by Feske & Chambless (1995) compared CBT to exposure for the treatment of SAnD. The efficacy of CBT versus waiting list controls was assessed in twelve trials and exposure therapy compared to waiting list in nine trials (Feske et al., 1995). Participants met DSM-III or DSM III-R (APA, 1980; APA, 1987) criteria for social phobia. The results found that cognitive therapy + exposure yielded similar effect sizes to exposure alone at pre/post and pre/follow-up on social phobia self-report measures. In conclusion, exposure with or without cognitive restructuring seemed to be equally effective treatments for SAnD.

In 1996, Taylor conducted a meta-analysis to examine the effectiveness of CBT treatments for SAnD. The study aimed to assess whether CBT was better than waiting list and placebo; whether there were benefits to adding cognitive therapy to exposure; and were improvement maintained at follow-up? Twenty-four studies were included in the meta-analysis. Participants met DSM-III to DSM-IV criteria (APA, 1980; APA, 1987; APA, 1994) for SAnD. At post-treatment, the effects for all CBT therapies were larger than for waiting list controls. However, only cognitive therapy + exposure ($M = 1.06$, $SD = 0.34$) was larger than placebo ($M = 0.48$, $SD = 0.26$). All outcomes increased from post-treatment to follow-up
for all treatments with no significant differences among them. In summary, cognitive therapy + exposure was the most effective treatment from SAnD.

Acarturk, Cuijpers, van Straten and Graaf (2009) conducted the most recent review and meta-analysis on psychological interventions for SAnD. The aim of their study was to investigate whether the results of the previous meta-analyses remained positive when restricted only to randomised control trials and when all new studies in the area were included. Twenty-nine studies were included. All participants met DSM-III to DSM-IV (APA, 1980; APA, 1987; APA, 1994) criteria or were above cut-off on a self-report or clinician-rated SAnD scale (Acarturk et al., 2009). The conditions compared were: CBT; cognitive therapy; social skills training; exposure; relaxation; waiting list; placebo; and treatment as usual.

The overall effect size for all the psychological therapies was large ($M = 0.70$, 95%, CI, 0.56-0.83) with no differences reported among the treatments (i.e. CBT versus exposure) (Acarturk at al., 2009). Subgroup analysis reported that studies which compared against placebo or treatment as usual had significantly smaller effect sizes relative to those that compared against waiting list controls. Furthermore, studies that included participants who met DSM diagnosis criteria reported significantly lower effect sizes than those that used different criteria (Acarturk at al., 2009). In summary, given these findings all CBT psychological treatments were posited as effective treatments for adults with SAnD.

7.2 Humanistic therapies. No systematic reviews or meta-analysis were found for humanistic therapies.

7.3 Psychodynamic therapies. No systematic reviews or meta-analysis were found for psychodynamic therapies.
7.4 Integrative therapies. No systematic reviews or meta-analysis were found for integrative therapies.

7.5 Third-wave cognitive behavioural therapies. No systematic reviews or meta-analysis were found for third-wave CBT therapies.

7.6 Cognitive behavioural therapies versus pharmacological treatments. The first review and meta-analysis to compare psychological and pharmacological treatments for SAnD was produced by Gould, Buckminster, Pollack, Otto, and Yap, in 1997. The meta-analysis evaluated the effectiveness of CBTs (e.g., cognitive therapy + exposure, exposure) versus pharmacological therapies (e.g., SSRIs, MAOIs). A total of 24 studies with 40 separate treatments were compared with controls (e.g., waiting list, placebo, treatment as usual). Participants met SAnD criteria, DSM-III, to DSM-IV (APA, 1980; 1987; 1994;) or would have if these criteria were applied.

For the psychological interventions, exposure resulted in the largest effect size, followed by CBT + exposure. SSRIs and benzodiazepines resulted in the largest effects for pharmacological interventions. All the CBT interventions combined and all the pharmacological treatments combined were similarly effective, and the combinations of the two were similarly effective. Slight therapeutic gains were reported for all psychological interventions at follow-up but not for the pharmacological interventions. This was the first evidence to suggest that CBT and pharmacological interventions are equally effective treatments for SAnD.

Federoff and Taylor (2001) undertook a review and meta-analysis of the effectiveness of psychological and pharmacological therapies for SAnD. They included 108 trials comparing (e.g., waiting list, pill placebo, attention placebo, benzodiazepines, SSIRs,

All psychological therapies reported moderate effects but only cognitive + exposure was significantly better than waiting list and attention placebo but not pill placebo. Benzodiazepines demonstrated significantly larger effects that psychological treatments but only in the short-term. Similar effect sizes were reported for SSRIs, MAOIs and cognitive therapy + exposure. Psychological treatment effects continued at follow-up. The findings from the review/meta-analysis suggested that benzodiazepine, SSRIs, MAOIs and cognitive therapy + exposure were effective treatments for SAnD.

A review and meta-analysis by Banderlow, Seidler-Brandler, Becker, Wedekind and Ruther (2009) compared the effectiveness of psychological and pharmacological treatments for SAnD; the authors only reviewed studies that also included a combined pharmacological and psychological treatment condition (Bandelow et al., 2009). Six trials were reviewed. All participants had SAnD diagnoses (DSM-III, DSM. III-R, or DSM-IV; APA, 1980; 1987; 1994). Comparison conditions were: drugs; CBT; drugs + CBT; CBT + pill placebo; drugs + pill placebo; and pill placebo.

Among the six trials only one reported a significant difference between treatments (i.e., between CBT + drugs and CBT + pill placebo). Pre-post effect sizes were large for both psychological and pharmacological interventions with no differences between any of the treatment conditions. Due to the small number of studies, it was not possible to draw conclusions about the effectiveness of combined psychological and pharmacological treatments.
8.0 Quality of the Evidence

The quality of the systematic reviews and meta-analysis above were determined by examining their internal validity (e.g. including uncontrolled studies, or completing heterogeneity testing) and external validity (e.g. SAnD diagnosis and comorbidity details) (see Appendix 2 for the Quality Grading of Evidence Table).

8.1 Quality of the cognitive behavioural therapy evidence for SAnD. There are a number of major weaknesses in all three CBT reviews and meta-analyses (Fesk et al., 1995; Taylor 1996; Acurturk et al., 2009): (a) they all included participants with both generalised and specific (performance) SAnD and avoidant personality disorder (APD), and did not provide sufficient details on the aforementioned disorders or other comorbid Axis I or Axis II disorders in their reviews. This clinical heterogeneity will interfere with the validity of the intervention effect size estimates of these reviews (Higgins & Green, 2011). Evidence indicates that generalised SAnD is less responsive to treatment than specific SAnD (Brown, Heimberg & Juster, 1995), as is APD (Feske, Perry, Chambless, Renneberg, & Goldstein, 1996). Furthermore, comorbidity interferes with treatment effects (Gould et al., 1997). Feske et al., (1995) and Taylor, (1996) included studies without control conditions thus, introducing methodological heterogeneity which potentially biases their effect estimates. Statistical tests of heterogeneity were conducted in only one study (Acurturk et al., 2009). In short, the internal and external validity and therefore the generalisability of effects of these reviews would seem to be biased.

8.2 Quality of the cognitive behavioural therapy versus pharmacological evidence for SAnD. An important caveat which seriously reduces the validity of these reviews (Gould et al., 1997; Federoff et al., 2001; Banderlow et al., 2009) is their clinical heterogeneity problems: (a) details concerning generalised and specific SAnD were omitted
from two reviews (Banderlow et al., 2009; Gould et al., 1997); and (b) information regarding comorbid Axis-I and Axis-II disorders were omitted from two reviews (Banderlow et al., 2009; Federoff et al., 2001) while the Gould et al., 1997 review contained studies with APD comorbidity issues. These clinical internal and external validity problems bias the treatment effects and reduced the generalisability of their findings (Higgins et al., 2011).

In summary, given the tentative nature of the findings for CBT for SAnD, and for CBT versus pharmacological therapies for SAnD, coupled with the fact that the most recent reviews were conducted in 2009, a more internally and externally valid and up to date review of the evidence is required.

8.0 Methodologies Available to Research the Topic

Randomised controlled trials (RCT) are considered to the gold standard research design for demonstrating a cause-and-effect relationship between intervention and an outcome, for this reason they are the research method of choice for meta-analysis (instead of observation studies or single case studies) (Stommell & Wells, 2004). The main strengths of RCTs as a research design are the methodological safeguards they lend which increase experimental control, these are outlined in Table 2. However, problems in RCT design or reporting of the RCTs may carry through into meta-analyses negatively influencing their results (See Table 3).

Table 2

<table>
<thead>
<tr>
<th>Research Strengths of Randomised Controlled Trials</th>
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<tr>
<td>(a) Randomisation (i.e., randomly allocating participants to treatment and control conditions; Salmon, 2008). Thus, making both groups as demographically similar as possible and ruling out other possible causes for the treatments effect. Concealment of allocation is an additional</td>
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</table>
protective measure conducted during randomization. It prevents investigators from assigning participants to treatment and control conditions in a subjective or biases fashion (Salmon, 2002). Evidence indicates that non-randomised studies tend to over and underestimate treatment effect sizes (Salmon, 2002).

(b) Blinding. Blinding is a process whereby the participants, investigators and treatment teams are oblivious to the treatments that have been received/administrated/assessed until after the study in order reduce differential treatment or biased assessment.

Systematic reviews and meta-analyses, if done well, can be a powerful way to summarise information from a number of independent studies examining the effectiveness of psychological therapies for SAnD. However, the outputs from a meta-analysis may still be biased if they are not based on a review that has been conducted systematically (garbage in garbage out). The clinical implications of the findings in this review will be provided next.

Table 3

The Main Methodological Problems in the Design and Conduct of Randomised Control Trials that can Affect Meta-Analyses (Flather, Farkouth, Pogue, & Yusif, 1997).

<table>
<thead>
<tr>
<th>a) Flawed methods of randomisation</th>
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<tr>
<td>b) Non-blinding of trial treatments</td>
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<tr>
<td>c) Treatment compliance problems</td>
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<tr>
<td>d) Badly described treatment conditions</td>
</tr>
<tr>
<td>e) Use of unreliable and non-validated outcome measures</td>
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<td>f) Incomplete reporting of outcome measures</td>
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<td>g) Studies with low power (small sample sizes)</td>
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</table>
h) Not analysing non-compliant/non-completing participants within the groups they were originally assigned

9.0 Clinical Implications

Research consistently reports patients' preference for psychological therapies over that of antidepressants as a treatment options for mental disorders (Riedel-Heller, 2005; Churchill 2000). Typically, adherence rates for antidepressants are very low, due to patients' concerns about side effects and potential dependency (Hunot, 2007) and symptom relapse when they are discontinued. Psychological therapies comprising cognitive therapy + exposure; cognitive therapy; social skill training and exposure alone have been shown to be effective treatments for SAnD (as effective as pharmacological treatments) by a number of meta-analyses (Fiske et al., 1995; Taylor, 1996; Gould et al., 1997; Federoff, et al., 2001; Banderlow et al., 2009) and are recommended as a first-line intervention for SAnD in clinical practice guidelines (Swinson, 2006).

10. 0 Conclusions and Future Directions

Research indicates SAnD has become a highly prevalent and disabling disorder. A number of systematic reviews and meta-analyses have been published to summarise the prevailing evidence on psychological interventions for SAnD. Cognitive therapy + exposure, cognitive therapy; social skill training and exposure alone have consistently been demonstrated as effective as pharmacological treatments for SAnD. Nevertheless, these studies have important limitations which reduce the validity and generalisability of their findings: (a) failing to report levels of generalised or specific SAnD, or comorbid Axis-I or Axis-II disorders, not testing for heterogeneity (i.e., clinical heterogeneity); and (b) including controlled and uncontrolled RCTs in their meta-analyses (methodological heterogeneity).
Given patients' reported preference for psychological therapies, coupled with adherence rate difficulties for pharmacological treatments, an up to date and comprehensive summary of the evidence on CBT for SAnD, using Cochrane systematic review methodology, is now timely. These findings are intended to guide health care policy and patient/clinician decision-making in the management of this disorder.
References


## Appendix 1

### Combination of Search Terms and Results for Each Database

<table>
<thead>
<tr>
<th>Search Terms</th>
<th>Number of results</th>
<th>Medline</th>
<th>PsycINFO</th>
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<tbody>
<tr>
<td>Social phobia AND Meta analysis</td>
<td>19 references</td>
<td>35 references</td>
<td></td>
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<tr>
<td>Social anxiety disorder AND Meta analysis</td>
<td>43 references</td>
<td>40 references</td>
<td></td>
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<tr>
<td>Social phobia AND Systematic review</td>
<td>22 references</td>
<td>13 references</td>
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<tr>
<td>Social anxiety disorder AND Systematic review</td>
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<tr>
<td>Totals</td>
<td>144</td>
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<tr>
<td>Overall Total</td>
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### Appendix 2

#### Quality Grading of Evidence

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<td><strong>External validity:</strong></td>
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<tr>
<td>Reported full details on participants SAnD diagnoses</td>
<td>Not provided - “heterogeneous generalised and specific SAnD sample” p21.</td>
<td>Not provided</td>
<td>Not provided</td>
<td>Some but not all details provided</td>
<td>Yes</td>
<td>Not provided</td>
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<tr>
<td>Included studies with specific (performance) SAnD</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>unclear</td>
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<tr>
<td>Reported full details on Axis I and Axis II comorbidity (especially APD)</td>
<td>Not provided - included participants with APD comorbidity</td>
<td>Not provided - included participants with APD comorbidity</td>
<td>Not provided - included participants with APD comorbidity</td>
<td>Yes</td>
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<td><strong>Internal validity:</strong></td>
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<td>Included uncontrolled studies</td>
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