

# **Cognitive Behavioural Treatment of Social Phobia**

## **Bridging the Gap between Research and Practice**

DISSERTATION

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## Preliminary Comments

I would like to use to opportunity to comment on a couple of formal aspects of this work.

The first chapter contains an introduction to the theoretical background of the concept, epidemiological aspects, aetiology and treatment of social phobia. Because the emphasise of this work is placed on the evaluation of treatment for social phobia, the theoretical part also focuses largely on the description of aetiological models and the treatment concepts derived from them as well as on the current state of treatment research.

The second chapter gives a short introduction to the intention, methods and results of the three conducted studies. The chapters 3, 4, and 5 are the original versions of the publication-based manuscripts. The second study „Effectiveness of an Empirically Supported Treatment for Social Phobia in the Field” is now in press in the Journal “Behaviour Research and Therapy”.

In the appendix the interested reader will find a table of the studies analysed in **STUDY I**, a more detailed description of the complete patient sample underlying **STUDY III**, a detailed description of the therapeutic procedure as well as a copy of all assessment measures and formulas used.

Because the publication based manuscripts were submitted in English language it seemed appropriate, for reasons of standardization, to write the complete doctoral dissertation in English. The sole exceptions to this are the German summary as well as the German original questionnaires and formulas depicted in the appendix.

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# 1. Theoretical Background

## 1.1. Social Phobia: Concept and Classification

Anxiety in social situations is neither uncommon nor particularly dysfunctional. About 80% of the general population report having suffered from shyness at some point in their life and about 40% even describe themselves as shy persons (Pilkonis & Zimbardo, 1979). Many well-known artists suffer from stage fright. Pop-idol Robbie Williams even admitted being so shy that he was on medication during the TV-show „Wetten Dass...“. Presumably all of us have experienced a certain degree of exam nerves or feeling nervous in expectation of an important date. However, while low levels of anxiety or nervousness can even boost performance, higher levels are extremely interfering.

The term social phobia is used in the case of marked and persistent fear in one or more social or performance situations, in which the person is exposed to unfamiliar people or to possible scrutiny by others. Individuals with social phobia fear to act in a way that will be embarrassing or degrading and thus be subject to negative evaluation. In many cases an individual may fear that other people could notice physical symptoms of anxiety and be scornful or humiliating towards them (Criterion A, Diagnostic and Statistical Manual of Mental Disorders, DSM-IV, American Psychiatric Association, APA, 1994). Even the expectation of being confronted with the fear situation provokes anxiety, which may be accompanied by a series of somatic anxiety symptoms (Criterion B). Even though the fear is recognized as excessive (Criterion C) a socially phobic individual will try and avoid the feared situations whenever possible. When this is not possible he or she endures them with intense anxiety (Criterion D). The social fear causes marked distress and can interfere significantly with occupational functioning, social activities or relationships (Criterion E). In individuals younger than 18 years the symptoms must have persisted for at least six months (Criterion F). The fear and avoidance is not due to direct physiological effects of a substance or a general medical condition and is not better accounted for by another mental disorder (Criterion G).

Social phobic fear is associated with performance situations, such as public speaking, and everyday social interactions, such as attending a party or speaking to an employer. The fear of public speaking has been found to be the most typical fear, followed by situations such as entering a room, which is already occupied by others, being addressed in front of others and meetings with strangers (Faravelli et al., 2000; Furmark, Tillfors, Stattin, Ekselius, &



Fredrikson, 2000; Stein, Torgrud, & Walker, 2000). Typical worries involve being embarrassed or judged anxious, weak, crazy, inadequate or stupid. People diagnosed with social phobia are also often hypersensitive to criticism and negative evaluation and find it difficult to be assertive. Additionally, many social phobics suffer from feelings of inferiority (Clark & Wells, 1995). The anxiety provoked in a social situation is often accompanied by a series of physical anxiety symptoms, which are likely to be visible, such as blushing, sweating, or trembling. In severe cases these symptoms may meet criteria for a panic attack (DSM-IV, 1994, fourth edition).

The criteria for social phobia have evolved considerably over the years. The first definition of social phobia in DSM-III (American Psychiatric Association, 1980, third edition) classified it as a simple phobia limited to the experience in a situation in which the individual is exposed to possible scrutiny by others. In the accompanying text, it was suggested that “generally an individual has only one social phobia” (p. 227). Individuals who experience anxiety in a broad range of social situations were considered as suffering from avoidant personality disorder. In DSM-III-R (American Psychiatric Association, 1987, third edition revised) the definition of the concept of social phobia broadened and included individuals with fears in a range of social situations. Customary classification systems, the tenth edition of the ICD-10 Classification of Mental and Behavioural Disorders (World Health Organization, 1992) and DSM-IV (1994, fourth edition) have moved closer together in the course of their development and now use relatively similar criteria to describe the degree of distress experienced by people suffering from social phobia. DSM-IV describes more generally an immediate anxiety reaction (criterion B) whereas ICD-10 emphasizes specific physical reactions (blushing or trembling, nausea or urge to urinate). The DSM-III-R and DSM-V also offer the possibility of specifying a generalized subtype if the fear involves almost all social situations as opposed to a nongeneralized subtype, when the fear only involves one or a few social situations. Individuals with generalized social phobia and non-generalized social phobia have been significantly differentiated according to a number of demographic and clinical features. Individuals with generalized social phobia have been found to be younger, less educated and more likely to be unemployed (Heimberg, Hope, Dodge, & Becker, 1990). Also, generalized social phobics endorse higher levels of depression, social anxiety, avoidance and fear of negative evaluation on a row of self-report measures (Brown, Heimberg, & Juster, 1995; Turner, Beidel, & Townsley, 1992), are more often single, have an earlier age at onset and higher rates of alcoholism (Mannuzza et al., 1995). In spite of these differences the subtyping

scheme is a subject of controversial debate. The main controversy seems to focus on the question of whether the subtypes differ qualitatively or only quantitatively (Boone et al., 1999; Chambless, Tran, & Glass, 1997; Holt, Heimberg, & Hope, 1992; Heimberg, Hope, et al., 1990; Stein, Torgrud, & Walker, 2000). It is also unclear how the criteria fear in “most situations” can be operationalized. In answer to the introduction of the subtyping scheme in DSM-III-R some researchers have suggested other subtyping schemes (Eng, Heimberg, Coles, Schneier, & Liebowitz, 2000; Heimberg, Holt, Schneier, Spitzer, & Liebowitz, 1993). However, the dichotomous subtyping system was retained in DSM-IV. The lack of an operational definition for the subtypes allows for a variety of interpretations, thereby hindering comparisons across studies (Hazen & Stein, 1995). As a consequence, **STUDY II** adopted an attempt used in a study by Gerlach, Wilhelm, Gruber, and Roth (2001) to categorize subtypes according to the number of feared situations listed in a reliable and valid structured clinical interview for *DSM-III-R* (Diagnostisches Interview bei Psychischen Störungen [Diagnostic Interview for Psychological Disorders], Margraf, Schneider, & Ehlers, 1991).

## 1.2. Differential Diagnosis

The similarity of symptoms within the anxiety and mood disorders may provide a difficulty in arriving at a reliable diagnosis of social phobia. The anxiety disorders share some overlapping features (e.g. fear and avoidance), whereas social phobia and depression have the aspect of social withdrawal in common. These similarities make a thorough diagnostic assessment of social phobia in terms of a diagnostic interview (see **STUDY II** and **STUDY III**) absolutely necessary, if one is to arrive at a reliable diagnosis.

### 1.2.1. Panic Disorder

Even though individuals suffering from panic disorder with agoraphobia may avoid social and performance situations, they do so for fear of having a panic attack and being unable to obtain help in that situation, and not specifically for fear of negative evaluation, humiliation and embarrassment (Ball, Otto, Pollack, Uccello, & Rosenbaum, 1995; Mannuzza, Fyer, Liebowitz, & Klein, 1990). Hazen and Stein (1995) point out that although both groups may suffer from panic attacks, in social phobia these attacks are situation bound and occur when entering or anticipating a social situation. In contrast, for the diagnosis of panic disorder there must be a history of at least one unexpected attack and subsequent attacks which do not occur exclusively in social situations. Also, in social phobia the content of automatic thoughts

revolves around fear of embarrassment and negative evaluation, whereas in panic disorder, the thoughts revolve around catastrophic consequences, such as heart attack, death or loss of control. Both social phobics as well as individuals diagnosed with panic disorder suffer from somatic anxiety symptoms. However, and not surprisingly, it has been found that social phobics are more likely to endorse symptoms that can be observed by others, such as blushing, muscle twitching, dry mouth, trembling or sweating in comparison to individuals with panic disorder, who tend to experience dizziness, palpitations, chest pain, breathing problems, feeling faint and numbness (Amies, Gelder, & Shaw, 1983; Gorman & Gorman, 1987; Reich, Noyes, & Yates, 1988; Hazen & Stein, 1995).

### 1.2.2. Generalized Anxiety Disorder

Generalized anxiety disorder and social phobia share some clinical features that complicate differential diagnosis. Mennin, Heimberg, and MacAndrew (2000) found 24% of their large sample of social phobic patients to receive an additional diagnosis of generalized anxiety disorder. Rapee, Sanderson, and Barlow (1988) discovered that although social anxiety is also common among people diagnosed with generalized anxiety disorder, the impairment associated with it is much higher for social phobia. The number of social situations that produce fear was considerably greater than the one reported by subjects with any other anxiety disorder and social phobics spend more time worrying about social situations. Turk, Fresco, and Heimberg (1999) point out that the uncontrollable worry that individuals with generalized anxiety disorder experience is not exclusive to social situations. They emphasize that a hallmark feature of generalized anxiety disorder is the heightened focus on possible catastrophic consequences across several domains of life. Also, like with panic disorder somatic symptoms tend to differ, with individuals with generalized anxiety disorder reporting more frequent occurrences of headaches and fear of dying (Reich et al., 1988; Cameron, Thyer, Feckner, Nesse, & Curtis, 1986). It may be questioned though, whether these distinctions are sufficient to reliably differentiate social phobia from generalized anxiety disorder in a clinical setting (Turk et al, 1999).

### 1.2.3. Depression

To differentiate social phobia from depression, a clinician must be able to determine whether social withdrawal occurs because of low energy or because of fear of negative evaluation (Turk et al., 1999). Another common feature is the hypersensitivity to rejection or criticism and a negative self-concept, which has lead Brunello et al. (2000) to speculate that social

phobia and depression may arise from a common vulnerability. They also see support for this idea in the fact that both disorders respond well to monoamine oxidase inhibitors. Clark and Wells (1995) argue that the negative self-schemata of depressed patients are relatively stable and persist throughout depressive episodes. In contrast, social phobics can have a positive view of themselves when they are alone or in situations they do not find threatening.

#### 1.2.4. Avoidant Personality Disorder

The new criteria for the classification of a generalized subtype have brought about some confusion concerning the distinction to avoidant personality disorder. Apart from the fact that the criteria for avoidant personality disorder have become more similar to those of social phobia, the rules in DSM-III-R (1987, third edition revised) were changed so that both diagnoses can be given to the same person. Turk et al. (1999) raise the question of whether the two diagnostic entities represent distinct disorders or the same disorder differing only in degree. Most researchers have come to the conclusion that the distinction tends to be a quantitative one and that the co-occurrence of generalized social phobia and avoidant personality disorder describes individuals with the most severe social phobias and the poorest global and social functioning (Heimberg et al., 1993; Herbert, Hope, & Bellack, 1992; Holt, Heimberg, & Hope, 1992; Feske, Perry, Chambless, Renneberg, & Goldstein, 1996; Rettew, 2000; Turner et al., 1992).

### 1.3. Epidemiology

#### 1.3.1. Prevalence

Estimates of prevalence of social phobia fluctuate considerably. One reason for this can be seen in different interpretations of the criterion of interference with a person's life in DSM-IV (1994, fourth edition) and ICD-10 (World Health Organization, 1992). Stein, Walker, and Forde (1994) investigated the effects of different thresholds in the categorization and found fluctuations in rates of prevalence between 1.9% and 18.7%. Further reasons can be assumed in the differences in the classification criteria between DSM-III and DSM-III-R as well as in non-uniform interview systems. The establishment of DSM-III-R and DSM-IV criteria that do not differ much and the development of widespread interview systems based on these criteria has led to more uniform as well as higher rates of prevalence. In the National Comorbidity Survey (Magee, Eaton, Wittchen, McGonagle, & Kessler, 1996) in the USA a rate of prevalence of 13.3% was found. In Basel, Switzerland, this rate was 16.1% (Wacker, Müllejjans, Klein, & Battégay, 1992), in Sweden 15.6% (Furmark et al., 1999), in France

7.3% (Pélissolo, André, Moutard-Martin, Wittchen, & Lépine, 2000), in Italy 6.6% (Faravelli et al., 2000) and in a German sample of men and women aged between 14-24 in Munich 4.9% and 9.5% respectively (Wittchen, Stein, & Kessler, 1999), indicating social phobia to be one of the most frequent chronic psychological disorders.

### 1.3.2. Developmental Aspects

Social phobia most often has its onset during adolescence, follows a chronic course and tends not to remit spontaneously (Burke, Burke, Regier, & Rae, 1990; Hazen & Stein, 1995; Schneier, Johnson, Hornig, Liebowitz, & Weissman, 1992; Wittchen, Stein, et al., 1999). Research of developmental aspects of social phobia is still in its early stage. Based on the research reviewed by Hudson and Rapee (2000) it seems that the ability to experience self-consciousness or to anticipate negative evaluation is unlikely to occur below the age of eight years. The beginning of adolescence accompanies the onset of increased self-consciousness. Changes in the individual's social situation in which an individual may have to regain his or her place in a social group open up the possibility of increased social concerns. It appears that the family may be involved in modelling the child's attitude. Child-rearing styles of overprotection or control, rejection and a lack of warmth as well as restricted exposure to social stimuli and parental modelling of socially related concerns might play an important role. Other environmental factors that could be involved are peer rejection, childhood illness, social isolation and birth order. However, most of the reviewed studies used retrospective data and many did not measure actual social phobia, but related constructs, such as shyness, self-consciousness, social anxiety, and audience sensitivity. Thus, further research is necessary to clarify the processes underlying the development of social phobia

### 1.3.3. Risk Factors and Socio-demographic Correlates

Epidemiological studies are concurrent in coming to the conclusion that women are affected by social phobia more frequently than men (Magee et al., 1996, Faravelli et al., 2000, Schneier et al., 1992; Wittchen, Stein, et al., 1999), nevertheless there are also contradicting findings (Bourdon et al., 1988). Younger persons as well as persons with a lower socio-economic status and unmarried persons tend to be more often affected than older, married or better educated people (Magee et al., 1996; Schneier et al., 1992; Schneier et al., 1994), although these factors are likely to be significantly inter-correlated. Studies have found proportions of over 50% of individuals who fulfil the criteria for social phobia to be unmarried, or to be divorced or separated (Furmark et al., 1999, Schneier et al., 1992; see also

Appendix C). Social phobia also seems to be a risk factor for weak school performance, truancy, premature termination of school, weak work performance and alcohol misuse (Mullaney & Trippett, 1979; Liebowitz, Gorman, Fyer, & Klein, 1985; Schneier et al., 1994; Schneier, Martin, Liebowitz, Gorman, & Fyer, 1989; Stein & Kean, 2000) as well as smoking and nicotine dependence (Sonntag, Wittchen, Höfler, Kessler, & Stein, 2000). Apart from showing reduced productivity at work, social phobic individuals spend more days out of work because of emotional problems (Stein, McQuaid, Laffaye, & McCahill, 1999; Wittchen, Stein, et al., 1999). A series of studies have shown individuals with social phobia to suffer from a reduced quality of life in various domains (Bech & Angst, 1996; Schneier et al., 1994; Mendlowicz & Stein, 2000; Stein & Kean, 2000; Wittchen, Fuetsch, Sonntag, Müller, & Liebowitz, 1999). In spite of this impairment, social phobia is poorly recognized and rarely treated by the mental health system (Katzelnick & Greist, 2001; Magee et al., 1996; Ross, 1993; Schneier et al., 1992; Wittchen, Fuetsch, et al., 1999; Wittchen, Stein, et al., 1999).

#### 1.3.4. Comorbidity

The clinical picture of social phobia is complicated by the fact that it is often connected to other psychological disorders. In fact, comorbidity seems to be the rule rather than the exception. Den Boer (2000) analysed data from four US epidemiological studies, investigating a total of 361 persons, who fulfilled the diagnostic criteria for social phobia. On average, 80% of these individuals were diagnosed with a further lifetime diagnosis. Other anxiety disorders were found to be the largest category of comorbid disorders, followed by depression (20%) and alcohol misuse (15%). The tendency of social phobia to be related to a row of other psychological disorders is reported in many other clinical (Barlow, 1994; Gelernter et al, 1991; Otto et al., 2000; Turner, Beidel, Borden, Stanley, & Jacob, 1991) and epidemiological studies (Brown & Barlow, 1992; Perugi et al., 1999; Schneier et al., 1992).

### 1.4. The Biological Basis of Social Phobia

#### 1.4.1. Genetic Factors

There is considerable evidence suggesting that genetic factors play an important role in the development of social phobia (Hudson & Rapee, 2000). The issue of genetics has been studied in a series of adoption, twin, and family studies. Several family studies have shown higher prevalence of social phobia in relatives of probands with social phobia than in relatives of probands with other anxiety disorders or no psychological disorders (Fyer, Mannuzza, Chapman, Liebowitz, & Klein, 1993; Reich & Yates, 1988; Stein et al., 1998). One of these

family studies (Stein et al., 1998) found an increased risk for generalized social phobia in first-degree relatives of individuals with generalized social phobia, but not in relatives with non-generalized social phobia, which fits in well with the fact that other authors (Boone et al., 1999; Heimberg et al., 1990; Levin et al., 1993) found differences in biological reactions to social situations between generalized and non-generalized social phobics, suggesting differences in the biological basis of the two groups (Bell, Malizia, & Nutt, 1999). The findings of family studies are supported by twin-studies suggesting moderate heritability of social fears (Kendler, Neale, Kessler, Heath, & Eaves, 1992; Skre, Onstad, Torgersen, Lygren, & Kringlen, 2000).

#### 1.4.2. Neurobiological Factors

Various models have been used to study neurobiological features of social phobia, including assessments of neurotransmitter function, response to chemical challenge, and neuroimaging. However den Boer (2000) points out that most studies involved limited numbers of patients and that there is still no clearly defined biological dysfunction in patients with social phobia.

Several findings in studies using different approaches underline the potential role of the dopaminergic system. First, a high comorbidity between Parkinson's disease and social phobia has been found, generating the idea that dopamine depletion is a possible cause of social phobia (Lauterbach & Duvoisin, 1991; Richard, Schiffer, & Kurlan, 1996; Stein, Heuser, Juncos, & Uhde, 1990). Second, misuse of amphetamines seems to be capable of causing social phobia through dopamine depletion (Williams, Argyropoulos, & Nutt, 2000). Third, clinical observations of the effects of MAOIs (Liebowitz et al., 1992) also suggest a contribution of the dopaminergic system in social phobia. Finally, studies using single photon emission computed tomography (SPECT) in patients with social phobia found striatal dopamine reuptake site densities to be markedly lower in social phobics than in matched comparison groups without a mental disorder (Schneier et al., 2000; Tiihonen et al., 1997). However, Bell et al. (1999) argue that in view of the clinical findings on dopamine it is unlikely that this observation is related to an increase in synaptic dopamine but to a decrease in the number of sites. Nevertheless, Stein (1998) concludes that a role for dysfunction within dopaminergic circuits in social phobia seems probable and further efforts in this direction are likely to be fruitful. However, the controversial interpretations (see also Coupland, 2001; den Boer, 2000) underline the necessity of further clarification of the exact role of dopamine.

A number of further findings point to other neurobiological factors that might be promising. Research on neurotransmitter abnormalities suggests that patients with social phobia may exhibit selective hypersensitivity of serotonergic systems (Tancer et al., 1995). Neuro-imaging research has demonstrated that the amygdala is involved in the processing of neutral faces in individuals with generalized social phobia. Slides of neutral faces enhanced amygdala activation in social phobics, but not in the healthy controls, who only responded to emotional facial expressions with amygdala activation (Birbaumer et al., 1998). Finally, in experiments on chemical challenges social phobics have been found to react with an increase of anxiety to CO<sub>2</sub> and to caffeine, similar to patients with panic disorder (compare Bell et al., 1999; den Boer, 2000).

On the other hand, it must also be pointed out that a number of studies have failed to find significant abnormalities in social phobics. For example, in a study using magnetic resonance imaging no difference could be demonstrated between patients with social phobia and normal control participants with respect to total, caudate, putamen, and thalamic volumes (Potts, Davidson, Krishnan, & Doraiswamy, 1994). Also, in a SPECT-study social phobics revealed no differences in cerebral blood flow in comparison to healthy comparison subjects (Stein & Leslie, 1996).

### 1.4.3. Evolutionary Factors

It has been suggested that social anxiety occurs as a result of social conflict and acts as a gesture of submissiveness to ward off attack from more dominant members of the same species thus avoiding fights and potential damage. As such, the socially anxious behaviour of some individuals is favourable for group cohesiveness and functioning as a social unit. This idea has led ethological theorists to state that social phobia has its onset in adolescence because that is the time when the individual is searching for his or her place within the social system (Öhman, 1986). In line with this evolutionary view is the assumption of a biological preparedness (Öst & Hugdahl, 1981; Öhman, 1986). The authors found that Pavlovian contingencies involving evolutionary fear relevant unconditioned and conditioned social stimuli (e.g. angry facial expressions) were much more effective in prompting conditioned fear than contingencies of evolutionary arbitrary stimuli. They concluded that there is a basic preparedness to react fearfully to such stimuli.



## **1.5. Cognitive and Behavioural Models of Explanation**

### **1.5.1. Early Theories**

#### **1.5.1.1. Classic Conditioning**

Early models focused on classic conditioning and postulated that a traumatic experience, an embarrassing moment in a social situation is responsible for the onset of the phobia (Öst & Hugdahl, 1981; Öhman, 1986). An example of such an experience could be failing at the blackboard in front of the entire school-class and being laughed at, or beginning a flirt and being mocked or pitied. However, Hofmann, Ehlers, and Roth (1995) found that although traumatic experiences have been reported by individuals with public speaking anxiety, in almost all cases these occurred long after the onset of their social phobia.

#### **1.5.1.2. Deficits in Social Skills**

Another theory was put forward suggesting that social phobia is the result of a principally reasonable, but exaggerated fear that has become contra productive in the course of time (Öst, Jerremalm, & Johansson, 1981; Trower, Bryant, & Argyle, 1978). This theory states that individuals with social phobia suffer from a lack of social skills, such as not knowing how to give a good speech (how to prepare, how to pronounce, how to dress), how to begin a conversation with a stranger or how to decline an offer etc.. Social skill deficiencies can also reveal themselves in rapid and breathy speech, tensed posture and jerky and poorly controlled gestures that increase the risk of embarrassment. Instead of training and optimising their skills, these individuals react with an increase of avoidance of social situations, which causes existent social competences to degenerate. Lack of social skill, in the sense of emitting fewer actions followed by less response, has been found to characterize depressed patients (Libet & Lewinsohn, 1973) and can possibly explain the onset and maintenance of social phobia for a subgroup of social phobics, but the empirical validation as a general model for social phobia has not been successful. Studies examining the social skills of socially anxious individuals have come to different conclusions, with some finding evidence for behavioural deficiencies (Stopa & Clark, 1993; Halford & Foddy, 1982) and others not (Clark & Arkowitz, 1975; Rapee & Lim, 1992). In fact, Trower et al. (1978) state themselves that many outpatient studies have failed to find clear evidence for the behavioural effect of social skills training in comparison to desensitisation. Furthermore, Heimberg (2001) points out that even if behavioural deficits are observed, it is unclear whether they are due to a lack of social knowledge or skill or to behavioural inhibition and avoidance produced by anxiety.

### 1.5.1.3. Irrational Beliefs

Ellis (1962) formulated irrational beliefs as an explanation of neurotic disorders. He argues that social anxiety can be explained by the irrational belief that one must always make a good impression in order to be loved and accepted by everybody one is in contact with. Another aspect can be that people get hooked to the idea that they must always achieve perfect performances in order to be regarded as valuable, leading to fear of risk and failure. As a consequence, these people tend to be more occupied with themselves than with the task, which results in less enjoyment or actual failure. Even if people managed to achieve this perfectionist and actually unreachable goal, they would have to continuously worry about how much they are loved or whether they are still loved. According to Lazarus (1979) an overgeneralization of the self takes place when people see their whole ego questioned because of an imperfect performance in a social situation. This overgeneralization goes together with an absolutistic way of thinking and a low feeling of self-worth and thus is mainly responsible for anxiety, feelings of guilt and depressive reactions.

The model of self-representation by Schlenker and Leary (1982; Leary & Kowalski, 1995) takes a similar approach by postulating that the socially anxious person is particularly motivated to present a good, socially desired impression, while simultaneously suffering from a low feeling of self-esteem. A person will feel socially anxious to the degree that they doubt whether they are able to make such an impression.

### 1.5.1.4. Vulnerability

Beck, Emery, and Greenberg (1985) also stress the role of cognitions in their proposal of a model of vulnerability. They state that persons will feel vulnerable in a given situation if they believe they are lacking important skills necessary to cope with it. The perception of insufficient coping skills makes the situation appear dangerous and triggers the “vulnerability mode”. Once this mode is activated, incoming data are processed in terms of the individual’s weaknesses rather than in terms of his or her resources (e.g. What if I can’t remember my next line?). The person will tend to downgrade his own abilities, since the immediate theme is weakness rather than strength. Incongruent, positive or functional information about the self or the situation are suppressed or distorted, because they have to go against the stream of negative ideation. The socially anxious person may determine his or her degree of vulnerability in an evaluative situation by the answers to a network of implicit questions “To what degree is this a test of my competence or acceptability?”, “How much do I have to prove

myself to me or others?”, or “What is my status relative to that of my evaluators?” (Beck et al., 1985, p. 147).

#### 1.5.1.5. Public Self-Consciousness

In the centre of a further model is the concept of self-awareness and public self-consciousness. Buss (1980) argued that although everybody is apt to feel more self-aware in a public situation, this applies even more to socially anxious individuals, who tend to be high on the trait of public self-consciousness. Self-consciousness describes the process of observing and evaluating one's own perception, thoughts, evaluations and somatic and motor processes and continuously checking these self-observations against a standard of social expectations. Drawing on evidence from experiments on self-esteem, Buss comes to the conclusion that public self-consciousness is likely to lead to inhibition of social responsivity and liveliness, as well as to discomfort, embarrassment or anxiety. Also, the perception of a discrepancy between what you are and what you think the social ideal is can diminish self-esteem. Nevertheless, he emphasises that apart from being self-conscious, several other factors may also serve to heighten a person's motivation to manage impression, such as the characteristics of the other persons involved and the value of the goals in the interaction.

#### 1.5.1.6. Metacognition

According to Hartman (1983), the socially anxious person engages in too much self-focused meta-cognition, which refers to a self-monitoring of one's thoughts and “involves the direct awareness of one's behavioural intentions and inputs to motor systems and thus allows the person to edit the production of his or her behavior” (1983, p.440). The person is pre-occupied with thoughts about his or her physiological arousal, ongoing performance and other people's perception of him- or herself as socially incompetent, nervous or inadequate. Excessive focusing of attention on these normally automatic processes leads to a withdrawal of attention from the situation or the other person, resulting in a loss of efficiency and impairment in interpersonal performance. Hartman suggested that a negative sense of self combines with self-monitoring in producing anxiety. The perceptual and processing mechanism involves a feedback system, which results in an escalating anxiety cycle. Hartman (1983) proposes a combination of his model with the assumptions put forward by Schlenker and Leary (1982). However, Hartman assumes that the desire to make a good impression is an important consideration in the development stages of social anxiety. In later stages the self-conceptualisation as being socially anxious and the fear of embarrassment play a more important role than the desire to make a good impression.

In a review of numerous studies, Hope, Gansler, and Heimberg (1989) found self-consciousness, and particularly self-focused attention to be linked to social anxiety, but only when the subject is vulnerable due to another factor such as social evaluation or lack of confidence to perform well. They also come to the conclusion that physiological arousal or awareness of it leads to self-focused attention. They conclude that excessive self-focused attention may be most problematic for social phobics who experience more intense physiological reactions. Social phobics vary in the degree of their arousal (Öst, Jerremalm, & Johansson, 1981), however, with some exceptions (Jerremalm, Jansson, & Öst, 1986; Scholing & Emmelkamp, 1993a), little attention has been directed to differential response to treatment. **STUDY III** is to our knowledge the first study examining physiological arousal as a predictor for treatment response.

## 1.5.2. Integrative Models

### 1.5.2.1. A Cognitive Behavioural Model of Social Phobia

The cognitive behavioural model by Heimberg, Juster, Hope, and Mattia (1995) does not actually present a new attempt at explanation, but aims at integrating various results from research and existing models. The model is based on the assumption of a predisposition to develop social phobia, which may be inherited or produced by factors in the childhood or adolescent environment, which have sensitised the person to threatening aspects of social encounters. Such factors can include a socially anxious parent, perfectionist standards, or overprotection and isolation from social contacts. Negative peer group or heterosexual experiences may also sensitise the child or adolescent to the potential consequences of social situations. This hypothesis is supported by some retrospective and child research (for a review see Hudson & Rapee, 2000). Heimberg et al. (1995) state that these experiences result in a set of beliefs that increase the probability that the person will approach social situations apprehensively or try and avoid them. These beliefs include the assumption that social encounters are dangerous to one's self-esteem, that the only way to avoid negative outcomes is to perform perfectly, and that he or she does not have what it takes to perform perfectly. As a consequence the person will anticipate humiliation, embarrassment and rejection and experience increased arousal before and during the social situation. The increased arousal then provides the person with further evidence of danger and may lead him or her to feel anxious that the anxiety will become visible to others. The authors provide a feed-back-model, in which the various processes feed into each other and contribute to the escalation of a person's anxiety and possibly even result in a disruption of behavioural performance. However, even if

performance does not objectively suffer, the authors state that the person is likely to decide that it was inadequate, because he or she compares it to a perfectionist standard and expects that others will evaluate it in the same way. In the end the sequence serves to affirm the negative beliefs and predictions and to increase the probability that the next social incidence will be experienced similarly.

#### 1.5.2.2. A Cognitive Model of Social Phobia

Wells & Clark (1997) argue that although Hartman (1983) and others have underlined the pivotal role of self-focused attention in the maintenance of social phobia, the mechanisms they describe linking self-focus to social phobia are likely to operate in other disorders and it is necessary to specify social phobic specific mechanisms. Drawing on the given theories and extensive clinical work, Clark and Wells (1995) advanced a cognitive model of social phobia. In the model, the social phobic is motivated to present a favourable impression but is insecure in his ability to do so in particular situations. This insecurity is explained as a manifestation of negative self-focused processing. It is linked to safety behaviours that are intended to protect self-esteem and prevent negative judgements from others. Safety behaviours differ from simple avoidance of the complete social situation. For example, someone can merely be avoiding eye contact. The avoidance of revealing blushing by wearing a thick layer of makeup or sweating by wearing particularly cool clothes or using deodorant several times a day are also considered safety behaviours. The authors state that some of these safety behaviours can paradoxically inflame problematic symptoms and increase the likelihood of poor performance. They propose that safety behaviours can maintain distorted thinking in social phobia by exacerbation of symptoms, by prevention of disconfirmation, by maintenance of self-attention, or by contamination of the social situation. The negative consequences of safety behaviours as well as somatic symptoms and cognitive interpretations feed back to the self-consciousness and reinforce distorted impressions of the self. The authors distinguish three phases of distorted processing. Dysfunctional processing can occur in the phobic situation itself, in advance of the situation as apprehension and rumination or, finally, after leaving the situation it is likely to continue as a “post mortem”, in which the social phobic goes over the situation, contemplating how it was, how it should have been and what the possible consequences are. However, the authors emphasize that the most important of these phases with regard to problem maintenance is the phase in the actual social situation. Similar to Beck et al. (1985) they state that the social situation activates dysfunctional conditional assumptions (e.g. If I am quiet people will think I’m boring), self-beliefs (e.g. I’m different)

or rigid rules for social situations (e.g. I must always sound fluent and intelligent). Schemas of this type make the individual vulnerable to perceiving social situations as potentially dangerous, leading to somatic and cognitive symptoms and inadequate safety behaviours. Also, when the socially anxious individual enters the social situation, there is a shift in his or her focus of attention towards an intensified negative self-processing. This self-focused attention, which is experienced as an increase in self-consciousness, reduces the attention available for processing external information and increases anxiety. The basic components of the model interact with each other in the maintenance of fear through four key feedback cycles. The self-processing can serve to increase danger appraisals. Safety behaviours maintain negative self-beliefs as well as negatively bias the appraisals of others. Finally, anxiety symptoms offer subjective support to distorted self-appraisals.

## **1.6. Treatment of Social Phobia**

So far, research has focused on cognitive behavioural treatment strategies as well as pharmacological treatment. The major classes of cognitive behavioural therapies that have been applied to social phobia include exposure, cognitive restructuring, relaxation training techniques and social skills training (Heimberg, 2001). Many of the strategies have been derived from the biological and psychological models described above. The usefulness of relaxation strategies was concluded from the knowledge of physiological arousal and its possible impact on self-focused attention. Social skills training is delineated from the model of social skill deficits. Cognitive interventions, such as restructuring beliefs and interpretations as well as re-shifting attention are derived from the cognitive theories (Beck et al., 1985; Buss, 1980; Clark and Wells, 1995; Ellis, 1962; Hartman, 1983; Schlenker & Leary, 1982). The expectancy of a positive effect of exposure was rendered from the good results achieved with patients suffering from simple phobia and panic and agoraphobia (Butler, Cullington, Munby, Amies, & Gelder, 1984), who share a number of common features with social phobic individuals. Similarly, many of the psychopharmacologic therapies were tested because of the good results achieved with patients suffering from major depression.

### **1.6.1. Cognitive Behavioural Interventions**

#### **1.6.1.1. Relaxation Techniques**

Relaxation techniques aim at helping the patient to learn to attend to and control the degree of physiological arousal experienced during or in anticipation of feared events. Most of the relaxation techniques, including systematic desensitization are derived from the pioneering

work of Wolpe (1969). However, research on systematic desensitisation for social anxiety is meagre, yielding contradicting results. Marzillier, Lambert, and Kellett (1976) tested systematic desensitisation in a sample of psychiatric out-patients with social or interpersonal difficulties and found it not to be superior to an untreated control group. Florin and Gurk (1978) developed a program for the treatment of exam anxiety, in which relaxation techniques took up a large part. Of the participants in the program 50% stated that it had helped them very much in overcoming anxiety. Jerremalm et al. (1986) suggested that relaxation techniques might be specifically effective for patients with fear of physical reactions, but could not support this hypothesis in their treatment outcome study.

#### 1.6.1.2. Social Skills Training

The most commonly used techniques in social skills training are therapist modelling, behavioural rehearsal, corrective feedback, social reinforcement and homework assignments (Trower et al., 1978). Studies investigating the effects of social skill training have yielded non-uniform results. Mersch, Emmelkamp, Bögels, and Van der Sleen (1989) compared it to rational emotive therapy and found it to be equally effective. However they did not find it to be more effective for patients who performed weakly in a social interaction test, thus lending no support to the hypothesis that it might be particularly helpful for this subgroup of patients. Wlazlo, Schroeder-Hartwig, Hand, Kaiser, and Münchau (1990) found no significant difference in treatment efficacy between social skills training and exposure. Also, Stravynski, Marks, and Yule (1982) found no superior effect, when social skills training was combined with cognitive modification. On the other hand, Marzillier et al. (1976) found a waiting-list control group to make a comparable progress to a group of patients treated with social skills training over a period of three to four months. Also, Trower et al. (1978) point out themselves that many outpatient studies have failed to find clear evidence for the behavioural effect of social skills training in comparison to desensitisation. As the effectiveness of social skills training alone for social phobia is questionable it is often combined with exposure (Hofmann et al., 1995; Turner, Beidel, Cooley, Woody, & Messer, 1994) yielding satisfying results.

#### 1.6.1.3. Exposure

Exposure requires the patient to imagine (in sensu exposure) or actually confront (in vivo exposure) the feared stimuli. In most cases, the first step is to generate a list of problematic situations with the patient. Such situations frequently concern giving a speech to an audience, serving drinks, being interviewed, asking for a date. The situations are rank-ordered and (mostly) the patient will begin exposure to a moderately feared situation to gain confidence

and experience success before addressing more feared situations (Fresco & Heimberg, 2001). In the early stages of the treatment, situations are entered in company of the therapist and the patient is asked to remain in the situation until he or she has experienced a certain degree of habituation to it. After repeated and prolonged exposure and when the situation no longer elicits a distressing level of fear, exposure is continued in the next situation. This process continues until the patient can master all the feared situations with a significantly reduced amount of anxiety.

Several studies have demonstrated a clear efficacy of exposure for social phobia (Alden, 1989; Butler et al, 1984; Fava, Grandi, & Canestrari, 1989; Newman, Hofmann, Trabert, Roth, & Taylor, 1994; Turner, Beidel, & Jacob, 1994; Mattick & Peters, 1988; Mattick, Peters, & Clarke, 1989; Mersch, 1995). Nevertheless, a number of problems arise when treating social phobia with pure exposure, which have led some authors (e.g. Fresco & Heimberg, 2001) to question its sufficiency for social phobia. Butler (1985) has listed these difficulties, which include the problem of clearly specifying tasks in advance, because social situations are variable and unpredictable, the time limit of many social situations, and the central role of thoughts and attitudes that are difficult to control in the situation. The post-mortem processing problem described by Clark and Wells (1995) can be added. Fresco and Heimberg (2001) point out that exposure is maximally effective when patients fully engage in all aspects of the situation in contrast to distracting themselves and focusing on negative evaluations and predictions or applying safety behaviours.

#### 1.6.1.4. Cognitive Restructuring

Cognitive restructuring consists of a set of interventions originating from the cognitive theory and therapies of Beck et al. (1985) and Ellis (1962). Individuals are taught to identify irrational or negative thoughts that occur during the anxiety-provoking situation. Next, they are taught to evaluate the accuracy of those thoughts as compared with objective information, which is derived by repeated questioning or, as an alternative, by behavioural experiments, such as observing others in a social situation or testing the effect of safety behaviours (Ellis, 1962; Clark and Wells, 1995). When dysfunctional thoughts are triggered by general beliefs, the therapist will question these beliefs (Ellis, 1962). Finally, the patient is motivated to develop rational alternative thoughts based on the acquired information.

Recent research on cognitive interventions focuses on a treatment based on the model of Clark and Wells (1995). Treatment consists of deriving an idiosyncratic version of the model, which is used as a point of reference during treatment, identifying safety behaviours and



demonstrating their adverse effects via experimental exercises, training patients to shift their attention away from the self to the external situation (as already suggested by Hartman, 1983), video-feedback to modify distorted self-imagery, behavioural experiments and identifying and modifying problematic anticipatory and post-event processing.

Behavioural experiments contain exposure elements, although exposure is not applied as systematically as described above. In the cognitive approach, exposure is less about habituation but more about the opportunity for patients to collect information that will enable them to revise their judgement about the degree of risk in a given situation (Heimberg, 2001). Although most studies have investigated the combined effect of exposure and cognitive restructuring, studies that only evaluated cognitive interventions supply strong evidence for their efficacy, particularly for the rational emotive therapy (Kanter & Goldfried, 1979; Schelver & Gutsch, 1983) but also for the treatment developed by Clark and Wells (1995) (Stangier, Heidenreich, Peitz, Lauterbach, & Clark, 2002). Additionally, Hofmann (2000) found changes in self-focused attention to be highly correlated with pre-post differences in social phobic anxiety.

#### 1.6.1.5. Combination of Exposure and Cognitive Restructuring

Heimberg et al. (1995) have presented a specific cognitive-behavioural group treatment (CBGT) for social phobia. The treatment is conducted in 12 weekly sessions that last for approximately 2.5 hours and is typically administered to groups of six patients and conducted by two co-therapists (Fresco & Heimberg, 2001). Treatment consists of developing a cognitive-behavioural explanation of social phobia, training patients in the skill of identifying, analysing, and disputing problematic cognitions, exposure to simulations of feared situations, cognitive restructuring, in vivo exposure as homework assignments and teaching patients to self-administer cognitive restructuring in combination with homework assignments. CBGT has received the most empirical attention and support (Cox, Ross, Swinson, & Dorenfeld, 1998; Gruber, Moran, Roth, & Taylor, 2001; Heimberg, Becker, Goldfinger, & Vermilyea, 1985; Heimberg, Dodge, et al., 1990; Heimberg et al., 1998; Hope, Heimberg, & Bruch, 1995; Hope, Herbert, & White, 1995; Otto et al., 2000). **STUDY I** describes an individualized approach to the combination of exposure and cognitive interventions (see Appendix D).

#### 1.6.2. Pharmacological Treatment

The goals of pharmacotherapy for social phobia aim at ameliorating the target symptoms, such as anticipatory anxiety, socially cued panic, avoidance behaviour and dysphonic

ruminations, to address comorbid conditions as well as to achieve remission and recovery. To achieve this, clinicians have been using various chemical agents (Marshall, 1993; Miner & Davidson, 1995; Scott & Heimberg, 2000; Walker & Kjernistedt, 2000). Irreversible, non-specific monoamine oxidase inhibitors (MAOIs) have been shown to achieve a positive response rate in studies using phenelzine (Gelernter et al., 1991; Liebowitz et al., 1992), but a lower response for atenolol (Turner, Beidel, & Jacob, 1994). However, despite the well-established efficacy, clinicians rarely chose MAOIs as first-line treatment for social phobia, because of the need for a low tyramine diet and diverse side effects. Other studies have supported the efficacy of clonazepam (Davidson et al., 1993; Munjack, Baltazar, Bohn, Cabe, & Appleton, 1990; Otto et al., 2000) as well as aprazolan (Gelernter et al., 1991). However, the use of benzodiazepines must be questioned, as many social phobic patients suffer from comorbid alcohol dependence, which is a contraindication for the use of benzodiazepines. All existing selective serotonin reuptake inhibitors (SSRIs) have been studied in the treatment of social anxiety and the evidence from controlled studies supports their efficacy, specifically the efficacy of sertraline (Blomhoff et al., 2001), fluvoxamine (Stein, Fyer, Davidson, Pollack, & Wiita, 1999), and paroxetine (Baldwin, Bobes, Stein, Scharwächter, & Faure, 1999). The SSRIs seem to be emerging as first line pharmacological treatment for social phobia. They are well tolerated in the short- and long term, safe and also effective in treating frequent comorbid disorders, such as depression (Walker & Kjernisted, 2000). In spite of their efficacy in the treatment of major depression, beta-blockers have been proved less effective in the treatment of social phobia (Liebowitz et al., 1992; Turner, Beidel, & Jacob, 1994).

### 1.6.3. Present State of Treatment Research

In the area of social phobia a series of meta-analyses have found a high efficacy of cognitive behavioural treatments in the reduction of social phobic anxiety, with mean effect sizes ranging from 0.8 to 1.1 (Fedoroff & Taylor, 2001; Gould, Buckminster, Pollack, Otto, & Yap, 1997; Feske & Chambless, 1995; Ruhmland & Margraf, 2001; Taylor, 1996). However, it should be pointed out that the meta-analyses were based on similar pools of studies for cognitive-behavioural treatments as the amount of studies is limited. Table 1.1. shows the mean pre-post and pre-follow-up effect sizes for the different treatment conditions from the given meta-analyses.

Fedoroff and Taylor (2001) found treatment with benzodiazepines to be significantly more effective than all other strategies with exception of SSRIs. However, they report follow-up studies only for psychotherapy with effect sizes in the range of attention placebo. The studies

they analysed used varying follow-up periods (up to six months), but there was no significant effect when the authors controlled for length.

Table 1.1.

*Mean Effect Sizes and Number of Trials for Psychological and Pharmacological Interventions in Meta-Analyses.*

	<b>Fedoroff &amp; Taylor (2001)</b>	<b>Gould et al. (1997)</b>	<b>Feske &amp; Chambless (1995)</b>	<b>Ruhmland &amp; Margraf (2001)</b>	<b>Taylor (1996)</b>
<b>Wait-list control</b>					
Post	0.03 (9)			0.03 (5)	-0.13 (5)
FU (1-6 months)					
<b>Attention placebo</b>					
Post	0.45 (4)				0.48 (5)
FU (1-6 months)	0.42 (1)				
<b>Exposure</b>					
Post	1.08 (7)	0.89 (9) <sup>1</sup>	0.99 (9)	1.76 (7)	0.82 (8)
FU (1-6 months)	1.31 (7)		1.04 (7)	1.06 (6)	0.93 (8)
<b>Cognitive Therapy</b>					
Post	0.72 (7)	0.60 (4) <sup>1</sup>		1.13 (3)	0.63 (5)
FU (1-6 months)	0.78 (5)				0.96 (5)
<b>EX and CT</b>					
Post	0.84 (21)	0.80 (8) <sup>1</sup>	0.90 (12)	1.07 (17)	1.06 (11)
FU (1-6 months)	0.95 (10)		1.10 (10)	1.39 (13)	1.08 (9)
<b>Social Skill Training</b>					
Post	0.64 (7)	0.60 (3) <sup>1</sup>		0.85 (2)	0.65 (4)
FU (1-6 months)	0.86 (4)				0.99 (3)
<b>Relaxation</b>					
Post	0.51 (4)			0.44 (2)	
<b>Benzodiazepines</b>					
Post	2.10 (5)	0.72 (2) <sup>1</sup>			
<b>SSRI</b>					
Post	1.70 (12)	1.89 (2) <sup>1</sup>			
<b>MAOIs</b>					
Post	1.08 (15)	0.64 (5) <sup>1</sup>			
<b>β-blockers</b>					
Post		-0.08 (3) <sup>1</sup>			

Numbers in parenthesis reflect the number of trials. Post = post-assessment after treatment, FU = follow-up (1-6 months), EX = exposure, CT = cognitive therapy, SSRI = selective serotonin reuptake inhibitors, MAOIs = monoamine oxidase inhibitors. 1 = controlled pre-post and follow-up effect sizes.

In the meta-analysis by Ruhmland and Margraf (2001) studies investigating social skills training and relaxation strategies achieved significantly lower effect sizes than exposure,

cognitive therapy or a combination of both. Nonetheless, all treatment strategies were better than the waiting list control groups. In order to have a better comparison with the other meta-analyses, the 1-6 months follow-up period is reported in table 1. However, follow-up data over longer periods of time for exposure and cognitive behavioural treatment were reported for five studies, yielding effect sizes comparable to those at post-assessment.

In the meta-analysis by Gould et al. (1997) a more conservative approach was chosen, including only controlled studies and excluding open trial pharmacological studies. Follow-up-data (3-6 months) are only reported for single studies. They found studies reporting follow-up-data to have a mean follow-up effect size .21, suggesting that subjects continued to make modest improvement, with the exception of the only follow-up study investigating pharmacotherapy, which indicated no further treatment gains. Gould et al. also examined the costs of treatments in relation to their efficacy. Cognitive behavioural group treatment was found to be clearly the least costly intervention, and clonazepam the least costly pharmacological intervention, especially by the end of the second year. Individual cognitive behavioural therapy combined with clonazepam and phenelzine totalled about twice the charge of group treatment and treatments with fluvoxamine were clearly the most expensive interventions.

The meta-analysis by Feske and Chambless (1995) concentrated on the comparison of studies testing cognitive behaviour therapy and studies testing exposure treatment. Their results indicated that treatment modalities are equally effective.

Taylor (1996) compared waiting-list control, placebo, exposure, cognitive therapy, a combination of exposure and cognitive restructuring and social skills training. He found all treatment conditions including placebo to differ significantly from the waiting-list-control group and only the combination of exposure and cognitive restructuring to yield a significantly larger effect than placebo. He also found a tendency for the effects of treatment to increase by a 3-month follow-up.

In sum, it seems that cognitive behavioural treatment is an effective and relatively inexpensive treatment that provides stable long-term effects. Although medical treatment (particularly SSRI) tends to be more effective on a short-term basis, long-term effectiveness is questionable and evidence for it has yet to be delivered. The doubt whether medical treatment is capable of producing stable effects is supported by the results of a large comparison study of CBGT and phenelzine (Heimberg et al., 1998; Liebowitz et al., 1999). At post-test both groups had improved comparably, although phenelzine patients had improved more on a

subset of measures. Also, many of the phenelzine patients who were classified as responders at post (after 12 weeks) had already achieved gains by the six-week assessment and this was less common among the patients treated with CBGT. However, after a follow-up period of six months, 50% of the previously responding phenelzine patients relapsed, compared to 17% of the CBGT patients.

To date, there are no published studies that have examined the combined effectiveness of cognitive-behavioural-and pharmacological treatments, although there are some being conducted at present (Heimberg, 2001).

Apart from the need for further investigation of long-term effects for medical treatment, I would like to emphasize two further issues arising from the current state of treatment research for the treatment of social phobia.

First, in spite of the effective treatment, social phobia is an under-treated psychological disorder (Katzelnick & Greist, 2001; Magee et al., 1996; Ross, 1993; Schneier et al., 1992; Wittchen, Fuetsch, et al., 1999; Wittchen, Stein, et al., 1999). Ross (1993) lists a row of barriers for treatment, expressed by people who contacted the Anxiety Disorders Association of America. They include ignorance about social phobic fears on the part of health professionals and the public, trivialization of the problem by family and friends, under diagnosis, the stigma attached to mental disorders in general, the sense of secrecy, shame, and embarrassment that accompanies social phobia in particular and the lack of access to affordable and professional care. Even of those social phobic patients who overcome the first boundaries and are fortunate enough to receive an adequate treatment offer, not all take up that offer and not all profit from treatment or are able to maintain success over a longer period of time. Scott and Heimberg (2000) point out that clinicians should be aware of alternative strategies for the treatment of social phobia because no treatment has been shown effective for all individuals. Thus, further research should focus on the question of which patients might benefit from which treatment. The question of whether there are patient characteristics on the basis of which the clinician is able to predict treatment attrition and success is addressed in **STUDY III**.

Second, the fact that treatment has been shown to be effective under research conditions does not necessarily mean that it will be equally effective in clinical practice. In fact, many practitioners doubt whether they will be as successful with their patients as researchers are with the patients they investigate and treat. There are numerous differences between research conditions and clinical practice, ranging from characteristics of the sample to the type of

building or the training of therapists. The question of whether these have any influence on the size of the effect is attended to in **STUDY I**. Finally, there is a need to demonstrate that cognitive behavioural treatment will work just as well in clinical practice, by comparing the effects achieved in clinical practice with those achieved in randomised controlled trials. This is done in **STUDY II**.

In the following chapter, the conducted studies will be introduced at more length, giving a brief description of their purposes and methods as well as a summary of the results. The complete descriptions of the studies are depicted in the chapters 3, 4, and 5.

## 2. Purpose and Summary of the Studies

### 2.1. Purpose and Summary of STUDY I

Although the effectiveness of cognitive behavioural treatment for social phobia has been studied in a large number of outcome studies and re-analysed in a row of meta-analyses, the question of whether this treatment will work in clinical practice remains unanswered. Private practitioners and other psychotherapists working under no research conditions often argue that their patients obviously differ from the research samples and that they therefore do not obtain as good results as those reported in the given literature. Yet very little attention has been given to the question of the generalization of these results to clinical practice. Juster, Heimberg, and Engelberg (1995) investigated self-selection and sample selection in a treatment study of social phobia. They found that although acceptors were found to score higher on only one of 25 pretreatment measures of clinical functioning, they improved significantly more on 3 of 5 posttreatment measures (global improvement, social anxiety and avoidance) than refusers or excluded patients. Weisz, Weiss, and Donenberg found for child and adolescent therapies that “research focusing on more representative treatment of referred clients in clinics has shown more modest effects, in fact, most clinic studies have not shown significant effects” (1992, p.1578). Shadish et al. (1997) conducted a secondary analysis of meta-analytic data and found very few studies that were even remotely clinically representative. However, studies that fulfilled a certain number of the criteria revealed effect sizes that were about 10% smaller than those of the complete sample of therapy studies.

These findings are in line with “a growing recognition that controlled clinical trials may not capture the full richness and variability of actual clinical practice and a concern on the part of some that the very process of randomisation may undermine the representativeness of clinical encounter” (Chambless & Hollon, 1998, p. 14) and underline the importance of more research to answer the question of generalization of treatment effects. It is possible that the selection criteria generally applied in efficacy studies lead to homogenous samples with low standard deviations in the applied measures. A small denominator in the fraction calculating the effect size could result in an overestimation of treatment effects in comparison to typical clinical samples. Thus, the aim of **STUDY I** was to direct further attention to the possibility that higher effect sizes in the treatment of social phobia are achieved in typical research conditions

and that these are not due to the quality of treatment but to sample selection and study characteristics.

To do this, we re-examined the current research on social phobia treatment and selected studies for which pre-post effect sizes could be calculated with the provided means and standard deviations for the outcome measures across treatment. Thirty studies<sup>1</sup> (see Appendix A) on cognitive and/or behavioural treatment of social phobia or severe interpersonal anxiety met our criteria for inclusion and were selected for our review. We categorized the studies according to common exclusion criteria, the heterogeneity of the sample and laboratory study characteristics according to the criteria listed by Shadish et al. (1997) and compared the mean effect size (ES) and standard deviation (SD) for each group of studies according to the applied sample and study criteria. We also calculated a laboratory and a restriction score according to the amount of applied typical research criteria a study fulfilled and analysed the correlation of these scores with the effect sizes.

Generally, the results of **STUDY I** did not offer convincing evidence for the assumption that effect sizes might be explained by the failure to gain typical samples. Two of the direct group comparisons even revealed the opposite effect. Patient samples that included patients with comorbid avoidant personality disorder and patients with prior treatment experience revealed higher effect sizes than samples without. Also, the results indicate that even the accumulation of sample restriction does not have predictive value for the pre-post effect sizes of treatment. However, there were some results in support of the observations made by private practitioners. Samples excluding patients with comorbid psychosis, substance misuse and bipolar disorder were shown to reach higher effects than those including these patients. The same applied for studies that were conducted following a treatment manual. We also found studies working with participants who were homogeneous in the length of their disorder to produce higher treatment effects than the other studies. There was strong evidence for the hypothesis that this relation is moderated by the size of the standard deviations in the applied measures. Finally, and most importantly we found evidence for an influence of accumulated laboratory criteria for research studies on the effect size. There was a significant tendency for studies applying laboratory treatment conditions, such as recruiting patients by adverts, applying treatment in university settings, using specifically trained therapists and following and monitoring treatment manuals to achieve higher effect sizes.

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<sup>1</sup> The analyzed studies are numbered 1-30 in the reference list.



In summary, the results in **STUDY I** are in line with Shadish et al. (1997) in finding a tendency for studies applying a row of research criteria to reveal slightly lower effect sizes. However, we found that this is not due to sample restriction in typical research studies. It seems that the laboratory characteristics, such as recruiting patients, the place of the study, the training of therapists or the implementation of a treatment manual have more influence on the difference.

## **2.2. Purpose and Summary of STUDY II**

**STUDY II** also addressed the potential gap between clinical research and practice, by following the recently popular distinction between the efficacy of psychotherapy and its effectiveness (Weisz, Donenberg, Han, & Weiss, 1995). Efficacy (or research therapy) refers to the effects of psychotherapy in randomised, controlled trials, usually conducted in university settings involving recruited patient clients, using a highly structured treatment manual for a narrow problem focus and trying to establish a high degree of internal validity. Effectiveness (or clinical therapy) refers to the effects of natural clinical psychotherapy conducted in the field, which means in private practice or in mental health centres, using quasi-experimental designs and trying to establish a high degree of external validity or generalization of results to various settings. All of the treatment studies carried out so far can be classified as efficacy studies with varying amounts of sample restriction and laboratory study conditions. So far, no study has tested the hypothesis whether treatment for social phobia can be delivered with the same effectiveness in a clinical setting, in which patients are not recruited by adverts, not randomised to treatment groups or preselected in a way typical of research but are part of the usual referral system and medical routine. **STUDY II** was an attempt to investigate the generalization of an empirically supported treatment for social phobia to a clinical setting. **STUDY II** also investigated the possibility that the effect-size could be enhanced by restricting the sample of patients according to the criteria employed in research settings.

The effectiveness of exposure combined with cognitive restructuring was examined in four outpatient clinics in the community and a large number of experienced and inexperienced therapists. Participants were 217 patients diagnosed with social phobia as the primary disorder who agreed to undergo treatment in one of four outpatient clinics run by the Christoph-Dornier-Foundation for Clinical Psychology (CDS). The patients were treated with high density in vivo exposure, supplemented by cognitive interventions (Appendix D). Patients

were assessed before treatment and six weeks after treatment (Appendix B) with a large battery of disorder specific and related self-report measures (Appendix E).

The results of **STUDY II** provided support for the clinical effectiveness of exposure combined with cognitive interventions for patients with social phobia. Fifty-six percent of the patients had reliably improved on social phobic fears and 57% were more likely to be drawn from a healthy population sample six weeks after the end of therapy. The rate of patients who felt impaired in important areas of their life dropped significantly, indicating that patients succeeded in transferring the effects of therapy into their every-day-life. The mean effect size for the measures of social phobia was 0.82, thus being within, but at the bottom range of the effect sizes reported in the meta-analyses for cognitive behavioural therapy (Fedoroff & Taylor, 2001; Gould et al., 1997; Feske & Chambless, 1995; Ruhmland & Margraf, 2001; Taylor, 1996). No higher effect size was attained when the sample was restricted, applying frequently used selection criteria. Even the comparison of a subgroup of patients, for which a row of restriction criteria was applied (low depression, no prior treatment, a medium age of 20–50 and homogenous in the severity of disorder) did not reveal a higher effect size than the remaining sample. The finding that the effect size was in the bottom range of those found in meta-analyses might be due to the fact that the questionnaire measures applied were less sensitive to change than those in the comparison studies that have been analysed in the meta-analyses. A direct comparison with studies using the same measures provides a different picture, as effect-sizes in these studies tended to be lower.

One shortcoming of **STUDY II** was that 11% of the patients could not be motivated to complete the follow-up questionnaires at post assessment. Although no significant differences were found between these patients and the ones who completed the follow-up questionnaires, there was a tendency for them to occupy an intermediate position between the completers and the dropouts, who differed significantly from one another on some of the measures. The higher depression scores and comorbidity found for patients who dropped out of therapy also underline the necessity of giving further attention to this group of patients. Nevertheless, an intent-to-treat-analysis also produced highly significant pre-post differences.

Taken together, **STUDY II** provided convincing evidence that empirically validated treatment for social phobia, the combination of exposure and cognitive restructuring, can be transported into natural field settings. However, it is most likely that these results require not only a thorough diagnostic procedure to assess social phobia as the primary problem but also frequent and maintained supervision of the therapists.

### 2.3. Purpose and Summary of STUDY III

Today, the social phobic health service user is in the fortunate position of having a range of treatments from which to choose. However, not all patients benefit from the tested treatment approaches. Turner, Beidel, Wolff, Spaulding, and Jacob (1996) calculated treatment success, taking into consideration not only patients who completed treatment but also those who were offered treatment, but refused or dropped out of it. This resulted in an alarmingly low rate of 52% of the patients seeking treatment for social phobia who actually profited from it. Also, there is little information available to indicate which patient with social phobia is more likely to benefit from which treatment (Walker & Kjernistedt, 2000). Awareness of prognostic features can be helpful in indicating treatments of choice, since a variety of effective treatment variations are available. Knowing about factors that are responsible for attrition as well as for failure to benefit from treatment may help to understand the processes underlying treatment and enable the therapist to adapt treatment procedures, delivery and planning accordingly to improve a specific patient's prognosis (van Minnen, Arntz, & Keijsers, 2002). A series of studies have investigated predictors for treatment response in social phobia (e.g. Chambless et al., 1997; Mersch, Emmelkamp, & Lips, 1991; Salabería & Echeburúa, 1996; Scholing & Emmelkamp, 1999; Turner et al., 1996). Most studies have concentrated on predicting change caused by treatment and end state functioning, focusing on sociodemographic and biographical variables, impairment, severity, subtypes, and comorbidity as potential predictors for change or end state functioning. Little attention has been directed to the questions of treatment dropout, refusal or relapse after treatment. Also, a number of promising variables has not been examined as predictors. Finally, the available studies are limited by the fact that predictors were studied in the context of controlled outcome studies whose inclusion criteria are likely to limit the variability of the factors studied as predictors. Specifically in the case of treatment refusal the question must be raised whether refusal of participating in a study with random assignment can be compared to the refusal to take up a (individualized) treatment offer as such. The aim of **STUDY III** was therefore to search for predictors of treatment acceptance, attrition, effectiveness, and relapses after treatment in a field treatment outcome study for social phobia and to compare these to variables identified as predictors in the context of controlled efficacy studies.

Patients diagnosed with social phobia seeking treatment in a naturalistic setting ( $N = 287$ , for a detailed description of this sample see Appendix C) were classified as refusers prior to treatment (16%), refusers after cognitive preparation (8%), dropouts (6%), and completers

(69%). Outcome was assessed by residual gain scores and patient improvement ratings six weeks and one year after the end of treatment. Patients who completed the one-year follow-up were categorized as stable (87%) or deteriorated (13%). Demographic and disorder-related as well as therapist and treatment variables were used as predictors for each classification.

The results of **STUDY III** indicate that approximately only 43% of the patients seeking treatment actually completed and benefited from it in the end. The only predictor for treatment attrition was comorbidity. Treatment gain was best predicted by satisfaction with health. Also, patients characterized by more generalized social phobia improved less by 1-year-follow-up. Pretreatment depression had no effect on change as assessed by the self-report measures, although more depressed patients reported having improved less. Patients who were more severely impaired at pretreatment found it harder to maintain treatment gain. Three important clinical implications were derived from the results of **STUDY III**. (1) Treatment refusers are as severely impaired by social phobic symptoms as patients who undergo treatment and additional efforts are needed to motivate these patients to take up treatment. (2) Cognitive preparation and the beginning of treatment should be even more adapted to pretreatment feelings of impairment and comorbid disorders, by restructuring hampering cognitions or conducting specific treatment for comorbid disorders. (3) It seems important to arrange for additional sessions over a specific period of time when patients are more severely impaired or suffer from more generalized social phobia, to enable them to integrate the treatment effects into their everyday life.

## 3. STUDY I

### ***How much do Sample Characteristics Affect the Effect Sizes? - An Investigation of Studies Testing the Treatment Effects for Social Phobia.***<sup>2</sup>

#### **3.1. Introduction**

Private practitioners and other psychotherapists working under no research conditions often argue that their patients obviously differ from the research samples and that they therefore do not obtain as good results as those reported in the given literature. Possibly as a reply to this, writers have recently begun to distinguish between the efficacy of psychotherapy and its effectiveness (Weisz, Donenberg, Han, & Weiss, 1995). Efficacy (or research therapy) refers to the effects of psychotherapy in randomised, controlled trials trying to establish a high degree of internal validity. These are usually conducted in university settings, involving recruited patient clients, selected according to inclusion criteria and using a highly structured treatment manual for a narrow problem focus. Effectiveness (or clinic therapy) refers to the effects of natural clinical psychotherapy conducted in the field, which means in private practice or in mental health centres, using quasi-experimental designs and trying to establish a high degree of external validity. While the efficacy of psychotherapy is generally well established, the generalization of efficacy findings can be challenged. Weisz, Weiss, and Donenberg found for child and adolescent therapies that “research focusing on more representative treatment of referred clients in clinics has shown more modest effects, in fact, most clinic studies have not shown significant effects” (1992, p.1578). Shadish, Matt, Navarro, Siegle, Crits-Christoph, Hazelrigg, et al. (1997) conducted a secondary analysis of meta-analytic data and found very few studies that were even remotely clinically representative. For a study to pass as clinical it had to be carried out in non-university settings, involve patients that were referred through usual clinical routes, involve experienced, professional therapists with regular caseloads and free to use a wide variety of procedures in

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<sup>2</sup> Reprinted in part from *Journal of Anxiety Disorders* (in press). Lincoln, T.M., & Rief, W., How much do sample characteristics affect the effect sizes? An investigation of studies testing the treatment effects for social phobia. Copyright 2003 with permission from Elsevier.

treatment rather than therapists in training or trained specifically for the purpose. The therapists were also not to have used a treatment manual and the implementation of the treatment should not have been monitored. Finally, the studies were to have used clients who were heterogeneous in personal characteristics as well as in focal presenting problems. Only one study fulfilled the authors' complete set of criteria for clinic therapy. However, studies that fulfilled a certain number of the criteria revealed effect sizes that were about 10% smaller than those of the complete sample of therapy studies.

In the area of social phobia a series of meta-analyses have found a high efficacy of cognitive behavioural treatments in the reduction of social phobic anxiety, with mean effect sizes ranging from 0.8 to 1.1 (Fedoroff & Taylor, 2001; Gould, Buckminster, Pollack, Otto, & Yap, 1997; Feske & Chambless, 1995; Ruhmland & Margraf, 2001; Taylor, 1996). Yet very little attention has been given to the question of generalization of these results to clinical practice. Juster, Heimberg, and Engelberg (1995) investigated self-selection and sample selection in a treatment study of social phobia. They found that although acceptors were found to score higher on only one of 25 pretreatment measures of clinical functioning, they improved significantly more on 3 of 5 posttreatment measures (global improvement, social anxiety and avoidance) than refusers or excluded patients. In a large clinical practice study (Lincoln, Rief, Hahlweg, Frank, von Wittleben, et al. 2002) we found the effect size for treatment of social phobia to be at the bottom range of those reported in meta-analyses. These findings are in line with "a growing recognition that controlled clinical trials may not capture the full richness and variability of actual clinical practice and a concern on the part of some that the very process of randomisation may undermine the representativeness of clinical encounter" (Chambless & Hollon, 1998, p. 14) and underline the importance of more research to answer the question of generalization of treatment effects. It is possible that the selection criteria generally applied in efficacy studies leads to homogenous samples with low standard deviations in the applied measures. A small denominator in the fraction calculating the effect size could result in an overestimation of treatment effects in comparison to typical clinical samples. In this case, private practitioners would be well advised to reduce their expectations concerning the effects of treatment that has been proved to be successful in the literature. Thus, further attention must be directed to the possibility that higher effect sizes are achieved in typical research conditions and that these are not due to the quality of treatment but to sample selection and study characteristics. In the present study we will re-examine the current

research on social phobia treatment to investigate whether sample restriction and laboratory conditions affect the effect sizes.

## **3.2. Method**

### **3.2.1. Retrieval of Studies**

In a first step, we searched for studies investigating exposure or cognitive behavioural treatment effects for patients with social phobia as primary axis I diagnosis. For this purpose we selected studies for which pre-post effect sizes could be calculated with the provided means and standard deviations for the outcome measures across treatment. We located studies by searching through the reference lists of available studies as well as by using the computer based retrieval system PsycLIT (American Psychological Association, 1994). We used the search terms “social phobia treatment” and “social phobia therapy” to search for journal, book and chapter citations from 1996 to the present 2001. Further studies were located on the basis of the meta-analyses cited above that investigated therapy outcome effects for social phobia. Unpublished studies were retrieved through correspondence with contributors in the field of research on social phobia in Germany.

### **3.2.2. Study Sample**

Thirty studies on cognitive and/or behavioural treatment of social phobia or severe interpersonal anxiety met our criteria for inclusion and were selected for our review. Twenty-two of the studies were listed in one of the meta-analyses referred to above. They were supplemented by six further published and two unpublished studies. Most of these studies investigated treatment effects, many of them comparing different treatments or different orders of treatment components to each other. One study investigated the sensitivity of different questionnaires (Cox, Ross, Swinson, & Drenfeld, 1998) and three studies investigated differences in treatment outcome for different subgroups of patients (Jerremalm, Jansson, & Öst, 1986; Hope, Herbert, & White, 1995; Hofmann, Newman, Becker, Taylor, & Roth, 1995).

Only patient-samples treated with cognitive behaviour therapy that included some form of cognitive restructuring or exposure to feared situations were used to calculate the effect sizes. The treatments applied in the studies included cognitive behavioural group therapy (CBGT) developed by Heimberg, Juster, Hope and Mattia (1995) (Cox et al., 1998; Gruber, Moran, Roth, & Taylor, 2001; Heimberg, Becker, Goldfinger, & Vermilyea, 1985; Heimberg, Dodge,

Hope, Kennedy, Zollo, et al., 1990; Heimberg, Liebowitz, Hope, Schneier, Holt, et al., 1998; Hope, Heimberg, & Bruch, 1995; Hope, Herbert, et al., 1995; Otto, Pollack, Gould, Worthington, McArdle, & Rosenbaum, 2000), a combination of exposure and cognitive restructuring (Butler, Cullington, Munby, Amies, & Gelder, 1984; Clark & Agras, 1991; Gelernter, Uhde, Cimboic, Arnkoff, Vittone, et al., 1991; Lincoln, et al., 2002; Mattick & Peters, 1988; Mattick, Peters & Clarke, 1989; Mersch, 1995; Scholing & Emmelkamp, 1993a; Scholing & Emmelkamp, 1993b; Taylor, Woody, Koch, McLean, Paterson, & Anderson, 1997) pure exposure (Alden, 1989; Fava, Grandi, & Canestrari, 1989; Newman, Hofmann, Trabert, Roth, & Taylor, 1994; Turner, Beidel, & Jacob, 1994), exposure and social skills training (Hofmann et al., 1995), personal effectiveness therapy and exposure (Wlazlo, Schroeder-Hartwig, Hand, Kaiser, & Münchau, 1990), social effectiveness therapy (Turner, Beidel, Cooley, Woody, & Messer, 1994), self-instructional training (Jerremalm et al., 1986), social skills training combined with cognitive modification (Stravynski, Marks, & Yule, 1982), rational emotive therapy (Kanter & Goldfried, 1979; Schelver & Gutsch, 1983), and cognitive therapy (Stangier, Heidenreich, Peitz, Lauterbach, & Clark, 2002).

### 3.2.3. Data Analysis Plan

#### 3.2.3.1. Calculation of effect sizes

As it was our intention to investigate effects of the sample characteristics and not the effects of treatment, subsamples of patients treated with different cognitive or behavioural interventions or different formats (group versus individual) within one study were combined into a single sample. This meant that the effect sizes for different treatment conditions as well as for group and individual therapy within the same study were averaged. We justified this by the fact that meta-analyses (Feske & Chambless, 1995; Ruhmland & Margraf, 2001; Taylor, 1996) failed to find significant differences between cognitive behaviour therapy and exposure or between group and individual therapy. In contrast, subsamples of patients with different characteristics within one study were left as distinct subgroups, thus going into the calculations as separate samples.

We applied the criteria chosen by Feske and Chambless (1995) for the calculation of effect sizes. They were calculated using the formula ( $M_{\text{pretest}} - M_{\text{posttest}} / SD_{\text{pretest}}$ ) and averaged in the case of more than one measure to assess social anxiety. Effect sizes were based on questionnaire self-evaluation measures because clinical ratings have shown to result in larger effects and could lead to an overestimation of the effects in studies using them. The following measures of social anxiety were included: the Fear of Negative Evaluation Scale (FNES,



Watson & Friend, 1969), the Personal Report of Confidence as a Speaker (PRCS, Paul, 1966) the Social Avoidance and Distress Scale (SADS, Watson & Friend, 1969) the Social Phobia and Anxiety Inventory (SPAI, Turner, Beidel, Dancu, & Stanley, 1989), the Social Phobia Subscale of the Fear Questionnaire (Marks & Mathews, 1979), the Social Situations Questionnaire (SSQ, Bryant & Trower, 1974), the Social Phobia and Social Interaction Anxiety Scale (SPS/SIAS, Mattick & Clarke, 1998), the Fear Survey Schedule (FSS, Hallam & Hafner, 1978) and the Unsicherheits-Fragebogen [Uncertainty-questionnaire] (Ullrich de Muynck & Ullrich, 1977), a commonly used and well validated scale in Germany.

### 3.2.3.2. Categorization of studies

In a second step, we categorized all studies that had provided the necessary information following the guidelines set up by Shadish et al. (1997). We operationalized these criteria by categorizing the studies according to their exclusion criteria, the heterogeneity of their sample and their laboratory study characteristics (see Appendix A).

#### 3.2.3.2.1. Exclusion criteria.

Exclusion of participants with (a) past or present comorbid substance misuse, past psychosis or bipolar disorder, (b) comorbid depression, (c) comorbid further Axis I disorders, (d) comorbid avoidant personality disorder (APD), (e) a low degree of severity (defined by participants having to reach a certain score in one of the questionnaires or on a rating of severity scale) or (f) prior treatment for social phobia.

#### 3.2.3.2.2. Heterogeneity of the sample.

(g) Were the majority (more than 60%) of the participants students or academics? (h) Were the participants of the sample heterogeneous in the duration of their disorder (defined by the standard deviation of the mean duration of disorder)? (i) Were they heterogeneous in the severity of their disorder on the questionnaire measures (defined by the standard deviation of the Social Phobia subscale of the FQ [Marks & Mathews, 1979], the FNES and the SADS [Watson & Friend, 1969] as these were the most frequently used measures)? (j) Was the age range limited? (k) Were there qualitative sample restrictions (e.g. investigating only musicians, only patients with comorbid avoidant personality disorder, only generalized or only specific subtypes)?

#### 3.2.3.2.3. Laboratory characteristics.

(l) Was a large part of the sample recruited by adverts made explicitly for the study? (m) Was the study carried out in a university setting? Because 11 studies had not provided explicit

information on this aspect, we decided to categorize these studies according to their reference address. We judged 9 of these studies to have been carried out in a university and 2 to have been carried out in a clinic setting. (n) Were the therapists specifically trained doctoral students or researchers or were they therapists working with normal caseloads? (o) Was a treatment manual used? (p) Was the implementation of the manual strictly monitored? This was assumed if it had been pointed out explicitly in the study.

### 3.3. Results

#### 3.3.1. Comparison of Studies According to Sample and Laboratory Characteristics

Table 1 shows the mean effect size (ES) and standard deviation (SD) for each group of studies according to the applied sample and study criteria. Because of a number of very small sizes and the assumption that they may be more prone to sample error, studies were weighted with the root of  $n$ . The effect-sizes were then compared using  $t$ -tests with Bonferoni-adjustment for each comparison separately ( $p = 0.05/13 = .004$ ). A significant difference in mean effect sizes was found for four of the comparisons. In contrast to expectations, two of these comparisons revealed higher effects for studies fulfilling the criteria for clinical therapy. Samples in which comorbid APD had been included as well as samples including patients with prior treatment experience reached higher effect sizes. However, studies that had excluded patients with comorbid psychosis, substance misuse and bipolar disorder or had been carried through following a treatment manual reached higher effect sizes than those who had not.

To test a possible negative relation of the heterogeneity in age as well as duration and severity of disorder with the effect size, a correlation analysis was carried out. The results are presented in table 2. Studies working with patient samples that were more homogenous in the duration of disorder tended to achieve higher effect sizes and the heterogeneity of the sample concerning the severity of disorder was also negatively related to the effect size. The correlations between the age range and the standard deviation of the mean age and mean effect sizes were lower, with only the age range reaching significance.

#### 3.3.2. Effects of Accumulative Research Characteristics

In order to estimate the accumulative effect of typical research characteristics on the effect size, we calculated a “general research score” for each study. To clarify whether a significant effect can be better explained by sample or by laboratory characteristics, we divided the

general score into a “sample restriction score” as well as a “laboratory score”. One point was given for each of the sample selection and laboratory criteria listed in table 1 and these points were then added up. The scores were only calculated for studies that had given information on the variables of interest, because too many missing values could possibly have resulted in an underestimation of restriction criteria applied in the study. For this reason, four of the studies (Cox et al., 1998; Fava et al., 1989; Kanter & Goldfried, 1979; Schelver & Gutsch, 1983) were omitted from the calculation. As information on the amount of students had not been specifically mentioned in many of the studies, this variable was also neglected in the calculation. For the 30 remaining samples the analysis of the general research score with the effect sizes revealed a correlation of  $r = .27$  (two-tailed  $p \leq .01$ , weighted  $n = 134$ ). The correlation of the sample restriction score with the effect sizes revealed a correlation of  $r = .09$  (two-tailed  $p = .28$ ). The correlation of the laboratory score with the mean effect sizes was  $r = .32$  (two-tailed  $p < .01$ ).

### 3.3.3. Effect of Sample Selection on the Standard Deviations

To test the hypothesis that sample selection results in a lower standard deviation in the questionnaires, we tested the correlation between the sample restriction score, the age range, the standard deviation of age and of duration of disorder with the standard deviation of the Social Phobia subscale of the FQ (Marks & Mathews, 1979), the FNES and the SADS (Watson & Friend, 1969). Table 3 shows this analysis, revealing only the standard deviation of the duration of disorder to be correlated with the standard deviations of the applied measures. The sample restriction score was not related to a lower standard deviation in the questionnaires and only one of the six correlations of sample variety in age and the standard deviations reached significance, whereas the others did not even reveal a definite tendency.

## 3.4. Discussion

The main aim of this study was to test the hypothesis that sample selection and laboratory study conditions lead to higher treatment effects in comparison to clinical conditions. We hypothesized that sample restriction would produce homogeneous samples and that this would affect the effect size. We did find the standard deviations of the questionnaire measures at pre-treatment to be positively related to the effect sizes. However, with the exception of the standard deviation of the duration of disorder, our sample restriction criteria were not related to these standard deviations. Generally, there was not much evidence for the assumption that effect sizes might be explained by the failure to gain typical samples. Two of the direct group

comparisons even revealed the opposite effect. Patient samples that included patients with comorbid avoidant personality disorder and patients with prior treatment experience revealed higher effect sizes than samples without. Also, the results indicate that even the accumulation of sample restriction does not have any predictive value for the pre-post effect sizes of treatment. On the other hand, we found some results to be in support of the observations made by private practitioners and other psychotherapists working under no research conditions. Firstly, samples excluding patients with comorbid psychosis, substance misuse and bipolar disorder were shown to reach higher effects than those including these patients. The same applied for studies that were conducted following a treatment manual. Secondly, we found studies working with participants who were homogeneous in the length of their disorder to produce higher treatment effects than the other studies. There was strong evidence for the hypothesis that this relation is moderated by the size of the standard deviations in the applied measures, which, in turn revealed moderate to high correlations with the standard deviation of the duration of disorder and moderate correlations with the effect size. Thirdly, and more important than these single findings, is the influence of accumulated laboratory criteria for research studies on the effect size. We found a significant tendency for studies applying laboratory treatment conditions, such as recruiting patients by adverts, applying treatment in university settings, using specifically trained therapists and following and monitoring treatment manuals to achieve higher effect sizes.

It must be noted, though, that the current study is characterized by certain difficulties complicating the interpretation of results. One very small study sample (Fava et al., 1989) revealed a mean effect size of 4.75 thus being far out of the range of the other effect sizes, ranging from 0.3 to 1.8 (see Appendix). However, we considered the size of the effect an insufficient reason for omitting a study. Also, we were interested in securing a large variability of studies. By weighting the studies with the root of  $n$  we tried to prevent effect sizes from very small samples from having too much influence on the results. The study by Fava et al., which fulfils most of the criteria for a clinical study, still remains responsible for some of the rather large standard deviations of the mean effect sizes in the group comparisons (see table 1). Without it, more of the comparisons would have had a stronger tendency towards significantly higher effect sizes for the studies applying research characteristics, two more (qualitative sample restrictions and recruiting by adverts) even reaching significance.

The interpretation of the single group differences is complicated by the inter-correlations of the laboratory or sample characteristics. For example the laboratory characteristics are all

positive ranging from .25 to .65, suggesting the possibility that some of them might be more relevant than others or that they might cancel each others effects. However, a linear regression analysis of these characteristics with the effect size as dependent variable supported the finding that the use of a treatment manual is the most important predictor of the effect sizes. Generally, significance testing in this study has to be interpreted with caution as the case numbers were artificially raised by the weighting procedure. As an alternative, the size of the differences can be considered, ranging between 20 and 35% for the significant findings.

It could also be argued that sample restriction factors could be confounded with other study factors, that affect pre-post effect size, e.g. treatment effectiveness, amount of treatment, type of outcome measure and that we cannot necessarily assume that these are equally distributed across all the comparisons made. However, the amount of treatment was fairly similar across studies and the majority of studies had used more than two outcome measures. Also, by choosing studies with similar treatment approaches we tried to rule out large differences in treatment effectiveness.

Another limitation could be seen in the fact that most of the studies were controlled efficacy studies carried out under typical research conditions. Only a minority of the studies fulfilled many of the criteria listed by Shadish et al. (1997) for being clinically representative. None of the samples were heterogeneous in their focal presenting problems, which was one of the criteria Shadish et al. had set up for clinic therapy. All patients suffered from social phobia or severe social inhibition as primary problem. On the other hand, there is no compelling reason hindering practitioners from treating patients according to their primary diagnosis.

Finally the number of study samples was very small and not all authors had given precise or sufficient information on the variables of interest. This resulted in very low case numbers for some of the comparisons. It may also have resulted in some failures to classify studies correctly (e.g. concerning the place in which the treatment was carried out or the monitoring of the treatment manual).

The optimal conditions in testing the hypothesis would obviously have been a set of about 60 studies all applying the same treatment with varying sample selection and study conditions and noting precise information on these conditions. As this was not the case, we had to make the best of the available studies.

In summary, the data are in line with Shadish et al. (1997), in finding a tendency for studies applying a row of research criteria to reveal slightly lower effect sizes. However, it does not

seem to be the impossibility of restricting their samples that could hinder private practitioners from achieving equal effects. It is the accumulation of laboratory characteristics, such as recruiting patients, the place of the study, the training of therapists or the implementation of a treatment manual that correlate positively with treatment effects. These findings give reason to hope, because they imply that researchers as well as practitioners can add to bridging the (small) gap between research and clinical practice. Researchers could try and conduct their treatment research under more natural conditions with health service users. On the other hand, therapists working in clinical practice would be well advised to follow treatment manuals and attend regular disorder specific training or supervision.

Table 3.1.

*Mean pre– post effect sizes for social phobia treatment according to sample and laboratory characteristics*

	applies		does not apply						
	ES	(SD)	n	(N)	ES	(SD)	n	(N)	p
<b>Sample Restriction Criteria</b>									
(a) exclusion of comorbid psychosis, substance misuse or bipolar disorder	0.94	(.34)	25	(112)	0.77	(.22)	4	(23)	*
(b) exclusion of comorbid depression	0.91	(.33)	17	(71)	0.92	(.32)	12	(63)	
(c) exclusion of comorbid axis I disorder	0.93	(.32)	11	(46)	0.91	(.33)	18	(88)	
(d) exclusion of comorbid APD	0.75	(.24)	6	(25)	0.95	(.33)	23	(109)	*
(e) exclusion of low severity	1.03	(.38)	12	(49)	1.00	(.70)	21	(103)	
(f) exclusion of prior treatment	0.71	(.39)	6	(32)	1.10	(.63)	26	(116)	*
(g) majority of sample are students	1.05	(.40)	11	(47)	1.21	(.99)	7	(42)	
(k) qualitative sample restrictions	1.17	(.39)	10	(40)	0.96	(.67)	23	(112)	
<b>Laboratory Characteristics</b>									
(l) patients recruited by adverts	1.03	(.40)	19	(89)	0.98	(.83)	14	(63)	
(m) carried out in a university setting	1.02	(.74)	17	(74)	1.00	(.75)	16	(77)	
(n) using specially trained therapists	1.03	(.31)	19	(91)	1.10	(.95)	11	(49)	
(o) following a treatment manual	1.05	(.65)	31	(132)	0.79	(.04)	2	(20)	*
(p) monitoring treatment manual	1.01	(.36)	16	(72)	1.02	(.77)	17	(79)	

\* =  $p \leq .004$ ; ES = mean effect size,  $n$  = number of samples,  $N$  =  $n$  weighted by the root of the sample size.

Table 3.2.

*Intercorrelations Between Effect Sizes and the Heterogeneity of the Sample Concerning Age, Duration of Disorder and Severity*

	Age range	<i>SD</i> Age	<i>SD</i> Duration	<i>SD</i> FNES	<i>SD</i> FQ, SP	<i>SD</i> SADS
ES	-.20*	-.19	-.33**	-.42**	-.45**	-.43**
	(N = 98)*	(N = 102)	(N = 71)	(N = 61)	(N = 76)	(N = 47)

\* =  $p \leq .05$ , \*\*;  $p \leq .01$ ;  $N$  = number of samples weighted by the root of the sample size; FNES = Fear of Negative Evaluation Scale; FQ, SP = Social Phobia subscale of the Fear Questionnaire; SADS = Social Avoidance and Distress Scale.

Table 3.3.

*Intercorrelations Between Sample Restriction, Sample Variance and the Standard Deviations of the Social Phobia Questionnaires*

	Restriction Score	Age range	<i>SD</i> Age	<i>SD</i> Duration
<i>SD</i> FNES	-.15 ( $N= 47$ )	-.22 ( $N= 31$ )	-.04 ( $N= 32$ )	.61 ( $N= 24$ )**
<i>SD</i> FQ, SP	.19 ( $N=68$ )	-.19 ( $N= 46$ )	.29 ( $N= 60$ )*	.47 ( $N= 51$ )**
<i>SD</i> SADS	.18 ( $N= 37$ )	.22 ( $N= 32$ )	.15 ( $N= 24$ )	.94 ( $N= 13$ )**

\* =  $p \leq .05$ , \*\*;  $p \leq .01$ ;  $N$  = number of samples weighted by sample size; FNES = Fear of Negative Evaluation Scale; FQ, SP = Social Phobia subscale of the Fear Questionnaire; SADS = Social Avoidance and Distress Scale.



## 4. STUDY II

### ***Effectiveness of an Empirically Supported Treatment for Social Phobia in the Field<sup>3</sup>***

#### **4.1. Introduction**

How well do the results of empirically supported treatments hold up in actual clinical practice (Wade, Treat, & Stuart, 1998)? It is often argued on behalf of private practitioners and other psychotherapists working under no research conditions that their patients obviously differ from the research samples and that they therefore do not obtain as good results as those reported in the given literature. Chambless & Hollon (1998) point out “a growing recognition that controlled clinical trials may not capture the full richness and variability of actual clinical practice” (p. 14). Writers have recently begun to distinguish between the efficacy of psychotherapy and its effectiveness (Weisz, Donenberg, Han, & Weiss, 1995). Efficacy (or research therapy) refers to the effects of psychotherapy in randomised, controlled trials, usually conducted in university settings involving recruited patient clients, using a highly structured treatment manual for a narrow problem focus and trying to establish a high degree of internal validity. Effectiveness (or clinical therapy) refers to the effects of natural clinical psychotherapy conducted in the field, which means in private practice or in mental health centres, using quasi-experimental designs and trying to establish a high degree of external validity or generalization of results to various settings.

While the efficacy of psychotherapy is generally well established, the generalization of efficacy findings can be challenged. Weisz, Weiss, and Donenberg (1992) found for child and adolescent therapies that “research focused on more representative treatment of referred clients in clinics has shown more modest effects. In fact, most clinic studies have not shown significant effects” (p. 1578). Recently, Shadish, Matt, Navarro, Siegle, Crits-Christoph, Hazelrigg, et al. (1997) conducted a secondary analysis of past meta-analytic data and found very few studies, which were even remotely clinically representative. For a study to pass as

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<sup>3</sup> Reprinted from *Behaviour Research and Therapy* (in press). Lincoln, T.M., Rief, W., Hahlweg, K., Frank, M., von Witzleben, I., Schröder, B., Fiegenbaum, W., Effectiveness of an empirically supported treatment for social phobia in the field. Copyright 2003 with permission from Elsevier.

clinical, it had to be carried out in non-university settings, involve patients that were referred through usual clinical routes, involve experienced, professional therapists with regular caseloads and free to use a wide variety of procedures in treatment rather than therapists in training or trained specifically for the purpose. The therapists were also not to have used a treatment manual and the implementation of the treatment was not to have been monitored. Finally, the studies were to have involved clients who were heterogeneous in personal characteristics as well as in focal presenting problems. Only one study fulfilled the authors' complete set of criteria for clinical therapy. However, studies that fulfilled a certain degree of the criteria revealed effect sizes that were about 10% smaller than those of the complete set of therapy studies. This finding seems to support the doubts of practitioners concerning the transferral of research findings and underlines the necessity of further investigation.

In the area of social phobia there is a large body of support for cognitive behavioural therapy. Four meta-analyses have found average uncontrolled pretest-posttest effect sizes for the reduction of social phobic anxiety ranging from 0.80 (Fedoroff & Taylor, 2001), 0.90 (Feske & Chambless, 1995), 1.06 (Taylor, 1996) to 1.07 (Ruhmland & Margraf, 2001). The mean controlled effect size was found to be 0.84 (Gould, Buckminster, Pollack, Otto, & Yap, 1997). Effect sizes were also high for general anxiety (Ruhmland & Margraf, 2001) but slightly lower for the reduction of depressive symptoms (Feske & Chambless, 1995) after treatment for social phobia.

However, most of the reported studies are characterized by sample selection criteria and thus do not reflect usual patient samples in clinical settings. Typically, the researchers had excluded patients with comorbid major depression, patients with prior treatment, patients outside a certain age range (e.g. 20-50 years), and patients with light to moderate impairment, with many studies even excluding patients with further Axis I disorders. Furthermore, several studies only investigated specific subsamples of patients with social phobia, such as physical reactors, specific subtypes, only musicians or only patients without a partner. All studies were conducted following a treatment manual and most of them involved specifically trained doctoral students and monitored the use of a treatment manual. Also, most of the studies involved patients recruited by newspaper advertisements, often offering free treatment in return for agreeing to take part in the study. Many of the studies were carried through in a university setting, involving mainly student participants. However, in a previous study (Lincoln & Rief, 2002), we found that none of the applied sample restriction criteria resulted in higher effect sizes. The data indicated that involving recruited patients and restricting the

variety of the sample in order to achieve a high degree of internal validity did not lead to an overestimation of effects in comparison to more clinically oriented studies. A limitation of the study was that the investigated samples were not clinical in the way defined by Shadish et al. (1997). With exception of the study we are going to present in this article, all of the studies were to be classified as efficacy studies with varying amounts of sample restriction and laboratory study conditions. Thus, generalization studies are needed to explore the transportability of empirically supported treatments to the field of outpatient psychotherapy (Wilson, 1996).

Three recent generalization studies were conducted in Germany. Wetzel, Bents, and Florin (1999) examined exposure therapy with response prevention for obsessive-compulsive disorder and found results to be comparable with those in controlled studies. Tuschen-Caffier, Pook, and Frank (2001) evaluated the effectiveness of cognitive behavioural therapy for bulimia nervosa. The effect sizes were in the range of those found in controlled research. Similarly Hahlweg, Fiegenbaum, Frank, Schroeder, and von Witzleben (2001) evaluated the effectiveness of individual high-density exposure for panic disorder with agoraphobia and also found the effect sizes to be comparable with the average effect sizes reported by meta-analytic studies of controlled efficacy research.

The only study on social phobia partly studying generalization to clinical practice was a study investigating exposure therapy in general practice (Haug, Hellström, Blomhoff, Humble, Madsbu, & Wold, 2000). Although this study qualified as being clinical in the sense that it was carried out in and adapted to clinical conditions, a number of laboratory research aspects remained. More than a third of the participants were recruited by newspaper advertising, all comorbid Axis I diagnoses were excluded as well as treatment for social phobia within the previous six months. Finally, it can be assumed that having to give consent to a randomisation to one of the four treatment groups, which also included medical treatment, could have resulted in further sample selection as reported by Juster, Heimberg, and Engelberg (1995), who found differences between patients who agreed to random assignment to treatment conditions and those who did not. However, the groups responded similarly to cognitive behavioural treatment. So far, no study has tested the hypothesis whether treatment for social phobia can be delivered with the same effectiveness in a clinical setting, in which patients are not recruited by adverts, not randomised to treatment groups or preselected in a way typical for research but are part of the usual referral system and medical routine. The current study is an attempt to investigate the generalization of an empirically supported treatment for social

phobia to a clinical setting. The effectiveness of exposure combined with cognitive restructuring will be examined in four outpatient clinics in the community and a large number of experienced and inexperienced therapists and will address the following question: Does an effectiveness study of social phobia treatment deliver results comparable to those of efficacy studies?

The study also investigates the possibility that the effect-size could be enhanced by restricting the sample of patients according to the criteria employed in research settings, by addressing a second question: Which effect does sample selection have on the effect sizes in the current sample?

## **4.2. Method**

### **4.2.1. Setting**

The Christoph-Dornier Foundation for Clinical Psychology (CDS) was founded in 1989 with the aim of promoting research and clinical practice in clinical psychology. The CDS runs seven outpatient clinics in Germany, in which patients with a variety of disorders are treated, in particular patients with anxiety disorders. Patients are referred from different sources; for example, general practitioners, psychotherapists, psychiatric hospitals or they come because they have heard about the CDS. In most cases the patient's health insurance company paid treatment or part of treatment, but patients had to take the trouble of applying for the reimbursement of expenses.

### **4.2.2. Participants**

Participants were 217 patients who agreed to undergo treatment in one of four CDS outpatient clinics in the cities of Marburg (MB; founded in 1989), Dresden (DD, founded in 1994), Braunschweig, (BS, founded in 1995) and Münster (MS, founded in 1993). All patients were diagnosed with social phobia as the primary disorder with a structured interview (see below) according to the criteria listed in the Diagnostic and Statistical Manual of Mental Disorders (DSM-III-R, 3rd ed., revised, American Psychiatric Association, 1987), meaning that social phobia was judged by the patients to be the most severe disorder and the one for which they wished treatment. Patients were not preselected in any way, with the exception of medical conditions not allowing for high-density exposure treatment. The institute in Marburg contributed 45%, Dresden 26%, Braunschweig 16% and Münster 13% of the participants.

The mean age of the sample was 33.7 years ( $SD = 10.3$ , range 12 – 65). Fifty-seven percent of the patients were male, 3% had not completed school, 34% completed secondary school, which comprises the two lower schools in the German school system, 32% completed high school and 31% had a university degree. Sixty percent of the patients were employed, 13% were unemployed, housewives or in retirement and 27% were students or in apprenticeship. Forty-eight percent were married or lived together with a partner, 63% were childless.

The mean age at onset of the disorder was 19.8 years ( $SD = 9.6$ ). Eighteen percent report the disorder having begun before the age of 13, whereas another 32% report the beginning of the disorder having been during adolescence (13-18 years). The mean duration of disorder was 13.6 years ( $SD = 11.1$ , range 0-57). Patients were diagnosed with generalized social phobia if they reported anxiety to be at least moderate in three or more from a list of twelve social situations in the clinical interview and if at least two different situational domains (formal speaking and interaction, informal speaking and interaction, observation of behaviour, and assertive interaction) were represented. Each interview protocol was checked by two raters, who agreed in 88% of the cases and came to a joint decision in unclear cases. Ninety percent were classified as generalized subtype, 10% as specific subtype. The ratings of severity were low (1-3) for 3% of the patients, moderate (4-6) for 64% and high (7-8) for 33% of the patients.

Eighty percent had already undergone therapy: sixty-six percent had undergone some form of psychotherapy, 38% had received professional medical treatment for social phobia and 23% had already been hospitalised in an institution for mental health. Sixty-eight percent were using anxiolytic, antidepressive, neuroleptic or another kind of medication for their anxiety. Forty-four percent had at least one comorbid Axis I disorder. Assessment of Axis II comorbidity was not integrated as a regular part of the diagnostic interview. This limitation is due to financial restrictions set by the insurance companies and a different emphasis at the beginning of data collection.

### 4.2.3. Treatment

Typically, the patients were treated with high density in vivo exposure supplemented by cognitive interventions. The highly individualized treatment consists of three main phases:

#### 4.2.3.1. Psychological and medical assessment

Psychological assessment (4-6 sessions) is described in detail below. A medical check-up is particularly important in the context of exposure since this can be physiologically stressful and may be contraindicated (e.g. for patients with coronary heart disease).

#### 4.2.3.2. Diagnostic feedback and cognitive preparation

Cognitive preparation for therapy takes place about one week later and is necessary to enhance the patient's motivation for treatment. The patient's core assumptions about the aetiology of social phobia are integrated into a model that is able to explain the way in which specific patterns engender and maintain social anxiety. Implications for therapy are then delineated on the basis of this model. Detailed information on the strategies of high-density exposure is provided and in this context the precondition of discontinuation of medication is explained. The patient is given 5-10 days to decide whether to participate in the treatment. The preparation phase is described in detail by Tuschen and Fiegenbaum (1997). It is not considered as actual treatment, but as a preparation for treatment. For this reason, patients ( $n = 24$ ) who discontinued after this stage are considered as refusers rather than dropouts.

#### 4.2.3.3. High-density exposure combined with cognitive interventions

When the patient decides to participate, exposure and cognitive intervention begin. The program is characterized by short treatment duration, usually lasting about five to seven days. The therapist is in close contact with the patient during the first days, during which it is not unusual for treatment to last for six to eight hours. The intensive treatment phase is followed by a self-control phase of six weeks, in which patients are instructed to continue exposing themselves to the feared situations in their everyday life. The self-control-phase is extensively prepared with the patient and additional support in the form of regular telephone contacts or additional treatment sessions is given when necessary. At the end of the self-control phase, the therapist and patient analyse the progress and the patient is motivated to integrate the interventions more and more into everyday life.

Exposure to the feared situations plays a central role in the therapy as it serves several purposes. It is used to experience a certain degree of habituation to the situation. It also serves to assess and correct core amplifying cognitions as well as safety behaviours and failure focused attention. If possible, an audience used for the exposure situation can also function as giving feedback in order to correct dysfunctional self-perception. The exposure situations are chosen depending on the patients' individual fears and starting with those feared most.

For example, if one of the most feared items is serving drinks while being observed by other people, the therapist will invite an audience in order to confront the patient with this situation. The exposure is extensively prepared with the patient. Expectations about the way the patient feels he or she is going to be perceived are noted and criteria for success are defined. The patient also decides on which aspects he or she would like to have feedback from the audience. The degree of perceived fear is rated on a scale from 0 (no fear) to 10 (maximum fear). The therapist interrupts the performance to assess the amount of perceived anxiety and instructs the patient to continue until habituation has taken place. A co-therapist videotapes the exercise. The audience is then asked to give the specific feedback defined before the exposure. Finally, the exposure situation and the feedback is discussed with the patient, using it as a natural segue into restructuring interventions in which the patient is taught to identify and challenge specific negative thoughts and general cognitive errors (e.g. because I feel bad, I must be performing badly) and perfectionist thinking (e.g. a less-than-perfect performance is a failed performance). The video feedback is used as an objective feedback and helps to detect safety behaviours.

Generally therapists are free to vary the amount of exposure and cognitive therapy as well as the length of the intervention according to the needs of the individual patient. They are also free to use additional specific interventions for the treatment of comorbid disorders.

#### 4.2.4. Therapists

Treatment was conducted by 57 diploma psychologists (roughly equivalent to a master's degree; 57% were female, 43% were male) with training in behaviour therapy, who are doctoral students of the CDS. The directors of the respective CDS outpatient clinic supervise treatment extensively. Training in high-density exposure was not delivered in a standardized way and was comparable with procedures described by Wade, Treat and Stuart (1998). Training of novice therapists consisted in reading the relevant literature, viewing videotapes of treatment sessions, attending the supervision sessions and participating as a co-therapist to more experienced therapists or the clinic director in the treatment of at least two patients. Therapists differed in experience: inexperienced therapists (total number of patients treated with any disorder 1-10) treated 22% of the patients, therapists with medium experience (11-20) treated 43% and experienced therapists ( $\geq 21$ , range 21- 60) treated 35% of the patients.

## 4.2.5. Measures

Patients were assessed before therapy (pre) with aid of a diagnostic interview as well as an extensive self-report assessment battery, which was also completed 6 weeks after the end of treatment (post).

### 4.2.5.1. Diagnostic Interview

The diagnosis was determined by a reliable and valid structured clinical interview for *DSM-III-R*. The Diagnostisches Interview bei Psychischen Störungen (DIPS) [Diagnostic Interview for Psychological Disorders] (Margraf, Schneider, & Ehlers, 1991) is the German version of the Anxiety Disorders Interview Schedule – Revised (ADIS-R, DiNardo, Barlow, Cerny, Vermilyea, Vermilyea, Himadi, et al., 1986). The ADIS-R/DIPS is a semi-structured interview with well-established psychometric properties. The therapists, all of whom had received intensive training in the use and scoring of the instrument, conducted the interviews. The clinical director of the respective outpatient clinic reviewed each case. In difficult cases, a consensus diagnosis was derived jointly.

### 4.2.5.2. General impairment

4.2.5.2.1. Symptom Checklist-90-Revised (SCL-90-R, Derogatis, 1994; German version: Franke, 1995). The SCL-90-R is a 90-item questionnaire assessing nine primary symptom dimensions and a Global Severity Index (GSI), based on all 90 items. The GSI is used to measure the intensity of the perceived distress. Internal consistency for the German version of the SCL-90-R is .97. It is frequently used as part of psychotherapy evaluation.

4.2.5.2.2. Questions on Life Satisfaction (FLZ M, Henrich & Herschbach, 2000; German Version: Henrich & Herschbach, 1996). The FLZ M is a short questionnaire for assessing general and health related quality of life. The questionnaire consists of two eight-item modules, “General Life Satisfaction” and “Satisfaction with Health”. The respondent rates each item twice, once for the subjective importance of the aspects of life or health addressed and once for the degree of satisfaction in that area. The two ratings are combined to a weighted satisfaction score. Internal consistency for the German version is .82 for General Life Satisfaction and .89 for Satisfaction with Health. As the FLZ M was not given to patients from the beginning, calculations can only be made for a smaller sample of  $n = 65$  (FLZ-GA) and  $n = 73$  (FLZ-GG).



#### 4.2.5.3. Social phobia measures

2.5.3.1. The subscale Interpersonal Sensitivity of the SCL-90-R. This scale assesses feelings of social uncertainty as well as fears of being observed or judged negatively. Internal consistency for the German version of the subscale is .86.

2.5.3.2. Social Phobia Scale and Social Interaction Anxiety Scale (SPS/SIAS, Mattick & Clarke, 1998; German Version: Stangier, Heidenreich, Berardi, Golbs, & Hoyer, 1999). The SPS/SIAS is a 40-item self-report questionnaire, consisting of two scales assessing the fear of being observed and evaluated by others as well as interaction anxiety. Internal consistency for the German version is .94 for SIAS and .94 for SPS and sufficient validity data are provided. As the SPS/SIAS was not given to patients from the beginning, calculations can only be made for a smaller sample of  $n = 117$  (SPS) and  $n = 116$  (SIAS).

2.5.3.3. Self-rating of impairment due to social phobia. Patients rated on a 5-point rating scale to what extent they felt impaired by their social anxiety in their work, their free time and social activities, and in their family life (0 = not at all, 1 = a little, 2 = moderately, 3 = severely, 4 = extremely).

#### 4.2.5.4. Related fears and avoidance

4.2.5.4.1. Body Sensation Questionnaire (BSQ, Chambless, Caputo, Bright, & Gallagher, 1984; German version: Ehlers, Margraf, & Chambless, 1993). The BSQ is a 17-item questionnaire to assess anxiety with regard to bodily symptoms, such as sweating or palpitations, which is common in patients with social phobic fears. This is shown by significant correlations ( $r = .39$ ) with the SPS (Heinrichs, Hahlweg, Fiegenbaum, Frank, Schroeder, & von Witzleben, 2002). The German version has an internal consistency of 0.85.

4.2.5.4.2. Agoraphobic Cognition Questionnaire (ACQ), Loss of Control subscale (Chambless, et al., 1984; German version: Ehlers et al., 1993). The ACQ is a 14-item questionnaire to assess anxiety/agoraphobic cognitions. The Loss of Control scale contains some items reflecting typical social phobic fears (e.g. I am going to act foolish). Internal consistency for the German version is .75.

4.2.5.4.3. The subscale Anxiety of the SCL-90-R. This scale describes physical symptoms of anxiety as well as nervousness, tension and worries. Internal consistency for the German version is .88.

#### 4.2.5.5. Depression

4.2.5.5.1. Beck Depression Inventory (BDI, Beck & Steer, 1987, German version: Hautzinger, Bailer, Worall, & Keller, 1995). The BDI is a 21-item self-report questionnaire used to assess the severity of depression and common cognitive, affective and somatic symptoms of depression. Internal consistency for the German version is .88 and sufficient validity data are provided. Furthermore, the reliability and validity of the BDI have been specifically affirmed in patients with social phobia (Coles, Gibb, & Heimberg, 2001).

4.2.5.5.2. The subscale Depression of the SCL-90-R. This scale includes feelings of slight depressiveness as well as symptoms of severe depression. Internal consistency for the German version is .89.

#### 4.2.5.6. Rating of improvement

We used a 7-point rating scale (1 = very much better, 2 = much better, 3 = better, 4 = no change, 5 = worse, 6 = much worse, and 7 = very much worse) to assess the subjective improvement due to the therapy. Patients and therapists rated the degree of improvement six weeks after therapy (post).

### 4.3. Results

Data analysis was performed in a series of steps. First, treatment completers were compared with patients who dropped out during treatment or those who failed to complete the post-assessment. Second, in a preliminary analysis, differences between the four outpatient clinics and between inexperienced and experienced therapists were analysed. In a third step, patients who had completed SPS ( $n = 85$ ), SIAS ( $n = 84$ ), FLZ-GG ( $n = 73$ ) and FLZ-GA ( $n = 65$ ) at pre and post were compared with the rest of the sample to test the possibility of generalizing their results to the complete sample and pre-post comparisons and consumer satisfaction were calculated. Fourthly, we considered effect sizes and the percentages of reliably and clinically significantly improved patients (Jacobson, Follette, & Revenstorf, 1984). Finally, in order to answer the question of whether the effect size is influenced by sample restriction, we compared subgroups characterized by the different exclusion criteria or specific sample characteristics as found in the efficacy studies to the remaining sample.

#### 4.3.1. Comparison of Treatment Completers and Dropouts

Of the 217 patients who agreed to undergo treatment after the cognitive preparation phase, 18 (8%) dropped out during treatment. The following reasons were given for dropping out during

treatment: The therapy seemed to hard to endure, the patient was transferred to another institution, the insurance refused to cover the costs, there were organizational difficulties or doubts regarding the rational for the treatment. Another 24 patients (11%) completed the treatment but did not send back the follow-up-questionnaires at post-assessment. Table 1 shows a comparison of pretreatment variables for dropouts, treatment completers with missing follow-ups and treatment completers who participated in follow-ups. Univariate analysis of variance (ANOVA) with Tukey-HSD post hoc tests for continuous variables were used to examine differences between the groups. Post-hoc tests revealed no significant differences between treatment completers and patients with missing follow-ups on continuous variables. However, a comparison of treatment completers with dropouts during therapy revealed two significant differences: First, dropouts scored higher on the SCL-GSI. A more detailed analysis found significant post-hoc differences on the subscales depression ( $p \leq .05$ ), phobic anxiety ( $p \leq .01$ ) and obsessive compulsive ( $p \leq .05$ ). Second, dropouts scored highly on the BDI, with a mean score of 22.7 ( $SD = 11.7$ ), which indicates a severe level of depression (Hautzinger et al., 1995), compared to patients with missing follow-ups (18.3,  $SD = 11.6$ ) and treatment completers (14.8,  $SD = 10.1$ ).

Chi-square-tests were used to examine differences between the groups on categorical variables. Dropouts from therapy were diagnosed significantly (Pearson's Chi-square = 10.8,  $df = 2$ , two-tailed,  $p \leq .01$ ) more often with at least one comorbid Axis I disorder than treatment completers or patients with missing follow-ups.

No differences were found between the groups concerning the scores in the questionnaires assessing social phobic fears, marital and educational status, gender, age, severity and duration of disorder, or the amount of prior treatment.

### 4.3.2. Preliminary Analyses

Analysis of covariance testing for differences between the four outpatient clinics with pre-scores on the SPS/SIAS and the subscale Interpersonal Sensitivity of the SCL-90-R as covariates yielded nonsignificant results for the post-scores on these measures, indicating that treatment was delivered with the same effectiveness despite the differences in setting, therapists, and supervision. There was also no difference in the duration of treatment between the four clinics, with the mean duration for the complete sample being 35 sessions (each lasting for 50 minutes), including the session for the first contact and 6 sessions for the psychological assessment.

Correlation of the amount of therapist experience with the average effect sizes for the social phobia measures showed no significant effect of experience on therapy outcome ( $r = .01$ ,  $p = .873$ ,  $n = 157$ ).

### 4.3.3. Treatment Outcome and Consumer Satisfaction

The sub-sample of patients who completed the SPS/SIAS and the FLZ did not differ from the rest of the sample who were not given these questionnaires on the SCL-GSI or any of the SCL-subcales in their response to treatment, so we found it reasonable to generalize the SPS results to the complete sample. Pre-post-comparisons on the questionnaire-measures were calculated for 175 patients who completed therapy and took part in the post assessment using paired sample  $t$ -tests with Bonferoni-adjustment for each time comparison separately ( $p = .05/11 = .005$ ). In table 2 the means, standard deviations with the specific  $t$ -value, degrees of freedom and level of significance are presented. Patient scores on all variables decreased highly significantly from pre to post. The same results were achieved for an intent-to-treat-analysis with pre-post comparisons including the complete sample and assuming there had been no change in patients who dropped out of treatment or did not complete the post assessment (see table 2). The questionnaires revealed some overlap, with pretreatment correlations ranging from  $r = -.15$  (FLZ-GA and SCL-AN) to  $r = .81$  (SCL-GSI and SCL-IS). The SCL-GSI revealed the highest correlations with other measures. At postassessment inter-correlations were generally higher, but revealed a similar pattern.

After treatment the patient and the therapist rated improvement on a 7-point rating-scale. At post 51% of the patients rated themselves as being much better or very much better, whereas 70% of the therapists rated their patients to be better or very much better. Forty percent of the patients (25% of the therapists) rated being somewhat better. Six percent of the patients (4% of the therapists) rated being unchanged. Finally, 3% of the patients (1% of the therapists) rated being somewhat worse or much worse. The inter-correlation between ratings by therapists and patients was  $r = .67$ .

### 4.3.4. Intra Group Effect Sizes, Reliable Change, and Clinical Significance

We calculated effect-sizes using the formula  $(M_{pretest} - M_{posttest}) / SD_{pretest}$ . According to Cohen (1988), effect sizes for  $t$ -tests are categorized as follows: low  $d > .2$ , medium  $d > .5$ , and high  $d > .8$ . Jacobson et al. (1984) propose two necessary conditions a patient has to fulfill for being classified as improved: a) he or she must have moved from a dysfunctional

range to the functional range during the course of therapy. This criteria was operationalized using the formular  $(M_{\text{DYSF}} * SD_{\text{FUNC}} + M_{\text{FUNC}} * SD_{\text{DYSF}}) / (SD_{\text{DYSF}} + SD_{\text{FUNC}})$ , defining the cut-off as the point from which it is more likely that a patient has ended up in the functional population than in the dysfunctional population. Means for functional populations were looked up in the test-manuals. For the SPS/SIAS, we used the data from a normal population of  $n = 80$  that had been collected in the Christoph-Dornier-Foundation from control-groups in other studies. This comparison group reached a mean of  $M = 10.69$  ( $SD = 9.01$ ) in the SPS and  $M = 18.36$  ( $SD = 8.56$ ) in the SIAS. b) there must have been change during the course of therapy. Here, the Reliable Change Index (RCI) was applied, with  $RCI = (M_{\text{PRETEST}} - M_{\text{POSTTEST}}) / SE$ , with  $SE = SD_{\text{PRETEST}} \sqrt{1 - r_{xx}'}$ , where  $r_{xx}'$  is the reliability of the measure. According to Jacobson et al. (1984) a patient is categorized as improved if the RCI is higher than 1.96 and as deteriorated if the RCI is lower than - 1.96.

Table 3 shows the results for the outcome variables according to the different criteria. At post assessment effect sizes ranged from .71 to .88. on the social phobic measures (SCL-Interpersonal Sensitivity, SPS/SIAS). They ranged from 0.39 to .89 for general impairment (SCL-GSI, FLZ-GA, FLZ-GG). The effect sizes ranged from 0.70 to 0.78 for related fears (SCL-Anxiety, BSQ, ACQ-Loss of Control) and from 0.58 to 0.68 for depression (SCL-Depression, BDI).

Next, using each outcome measure, the percentage of persons demonstrating reliable improvement or deterioration was calculated. On average 56% of the patients were reliably improved on social phobic fears, 41% on related fears and avoidance, 48% on general impairment and 41% on depression. However, 2% of the patients deteriorated in their social phobic fears after the treatment.

The percentage of patients more likely to be drawn from a functional population was calculated for each outcome measure before and after treatment for the sample of patients who completed post-assessment ( $n = 175$ ). Considering social phobic fears 57% were now more likely to be drawn from a healthy sample, the percentages were 66% for depression, 54% for general impairment and 64% for related fears respectively.

The ratings of impairment in important areas of everyday life provide a final source to estimate clinical significance. Thirty percent still rated themselves as being severely or very severely impaired at work (in comparison to 87% before therapy). Twenty percent still felt

impaired during their free time (64% before therapy) and 5% remained feeling impaired in their family (33% before therapy).

#### 4.3.5. Effects of Sample Selection

We calculated differences between the mean effect sizes of the social phobia outcome measures (SCL-Interpersonal Sensitivity, SPS and SIAS) of subgroups characterized by exclusion criteria or sample characteristics that had been applied in the investigated outcome studies in contrast to subgroups for which these criteria did not apply. Common criteria consisted of a) excluding comorbid depression, b) excluding patients with prior psychological treatment for social phobia, c) excluding patients with a severity of disorder below 4 in the DIPS 1-8 rating-scale, and d) excluding patients older than 50 or younger than 20. Further frequently found characteristics were e) excluding comorbid Axis I diagnosis, f) using samples consisting mainly of students, g) only treating specific subtypes of social phobia, or h) only cognitive reacting patients (in contrast to physical reactors). Table 4.4. shows the differences in mean effect sizes of subgroups according to the applied criteria. Using two-tailed *t*-tests we found only one significant difference that was not, however, in support of the hypothesis that exclusion criteria lead to higher effect sizes. The group of patients with a BDI of 18 or above revealed a higher mean effect size than the rest of the sample. Also, the accumulated application of common exclusion criteria did not lead to higher effect sizes. A sample of patients characterized by a BDI-score below 18, no prior treatment experience for social phobia, a severity of at least 4 in the DIPS rating and aged 20 to 50 did not differ significantly from the remaining sample of patients (see table 5) in the way they responded to treatment.

### 4.4. Discussion

The questions addressed in this study were whether an effectiveness study of social phobia treatment delivers results comparable to those of efficacy studies and whether sample selection and study characteristics would have resulted in higher effect sizes.

To test whether our sample differed from research samples on relevant pretreatment variables, we compared it to samples in 30<sup>4</sup> comparison studies testing cognitive behavioural and exposure therapy that we had investigated in a previous study (Lincoln & Rief, 2002). The

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<sup>4</sup> the comparison studies are numbered 1-30 in the reference list

mean age in our sample was 34 compared to 35 ( $SD = 4.3$ ) as mean age of the comparison studies. Forty-three percent were married or with a partner compared to 43% ( $SD = 19.6$ ) in the comparison studies. There were slightly more men (57%) than in the comparison studies (51%,  $SD = 13.5$ ). The duration of disorder of 13.6 years is slightly lower than the mean of 17 ( $SD = 6.4$ ) in the comparison studies. About half of the patients suffered from comorbid disorders, which is characteristic of patients with social phobia (Magee, Eaton, Wittchen, McGonagle, & Kessler, 1996). A majority of patients (66%) had already received some kind of psychological treatment prior to the treatment in the CDS, which is comparably high in comparison to epidemiological findings (Magee et al., 1996). A direct comparison of comorbidity and prior treatment experience with the comparison studies was not possible because of imprecise description in many of the studies and the fact that comorbidity and prior treatment were frequent exclusion criteria.

The mean pretreatment-score on the SPS ( $M = 38$ ) was higher than the mean score of  $M = 31$  ( $SD = 4.9$ ) in comparison studies using SPS or SIAS (Cox, Ross, Swinson, & Dorenfeld, 1998; Gruber, Moran, Roth, & Taylor, 2001; Heimberg, Liebowitz, Hope, Schneier, Holt, Welkowitz et al., 1998; Mattick, Peters, & Clarke, 1989; Otto, Pollack, Gould, Worthington, McArdle, Rosenbaum et al., 2000; Stangier, Heidenreich, Peitz, Lauterbach, & Clark, in press). The score in the SIAS ( $M = 40$ ) was comparable to the SIAS score in the comparison studies ( $M = 41$ ,  $SD = 4.3$ ). The same accounts for the mean BDI score ( $M = 15$ ) compared to a mean of  $M = 14.5$  ( $SD = 2.9$ ) in comparison studies using the BDI (Cox et al., 1998; Gruber et al., 2001; Heimberg, Dodge, Hope, Kennedy, Zollo, & Becker, 1990; Jerremalm, Jansson, & Öst, 1986; Stangier et al., in press). A specific comparison with German outcome studies (Stangier et al., in press; Wlazlo, Schroeder-Hartwig, Hand, Kaiser & Münchau, 1990) also yielded no major differences.

To summarize, the characteristics of the investigated, unselected group of social phobic patients were similar to treatment-groups reported in the literature, with the exception of a slightly higher percentage of men, a slightly higher score in the SPS, and possibly a higher ratio of patients with generalized social phobia, which might also be due to the rather liberal criteria applied for subtype discrimination. The duration of disorder for the patients in our study was shorter than the mean duration in the comparison studies, but longer than in the German comparison study (Wlazlo et al., 1990). Thus, it is possible that people suffering from social phobia in Germany do not wait as long before they seek help as patients in the United States, where most of the comparison studies were conducted. The average of 28 treatment

sessions was higher, but in the range of the average 22 sessions in the comparison studies ( $SD = 9$ ). It must be noted though, that many of these are group treatments and individual treatments typically consisted of fewer sessions ( $M = 17, SD = 8$ ), making the number of sessions in our study appear definitely higher. Possibly, additional treatment sessions were needed in our study to attend to comorbid disorders. However, it is important to keep in mind that some patients in controlled outcome studies with fixed numbers of sessions were offered additional treatment after post-assessment, which might have led to further improvement not reflected in the pre-post effect sizes of these studies.

The present study fulfils most of the criteria for a clinically representative study as defined by Shadish et al. (1997): (a) treatment was conducted in a non-university setting, (b) involved patients referred through usual clinical routes, (c) used patients heterogeneous in personal characteristics, (d) therapists did not use a treatment manual, (e) therapists were free to use a variety of procedures and were not restricted to a fixed number of sessions and (e) implementation of the treatment manual was not monitored.

Two criteria were not met: (f) homogenous patients with regard to primary diagnosis (social phobia) were included instead of patients heterogeneous in focal presenting problems, and (g) only about 50% of the therapists can be regarded as experienced and the majority of therapists were still in their post-graduate 5-year psychotherapy training. Also, the therapists were doctoral students, which is more typical of efficacy studies. However, the therapists did work with regular caseloads and did not receive training specifically for the research study. On top of this, as Hahlweg et al. (2001) also pointed out, using experienced therapists only may not be a valid criteria for clinically representative studies, because there are varying levels of expertise among therapists working in institutions such as community mental health centres or psychiatric in-patient facilities. Therefore, from our point of view, the present study can be regarded as clinically representative.

The outcome results six weeks after the end of treatment for patients completing the intervention provide support for the clinical effectiveness of exposure combined with cognitive interventions for patients with social phobia. Fifty-six percent of the patients were reliably improved on social phobic fears and 57% were more likely to be drawn from a healthy population sample six weeks after the end of therapy. The rate of patients who felt impaired in important areas of their life dropped significantly, indicating that patients succeeded in transferring the effects of therapy into their every-day-life. The mean effect size for the measures of social phobia was 0.82, thus being within, but at the bottom range of the



effect sizes reported in the meta-analyses (Fedoroff & Taylor, 2001; Feske & Chambless, 1995; Gould et al, 1997; Ruhmland & Margraf, 2001; Taylor, 1996).

No higher effect sizes were attained when the sample was restricted, applying frequently used selection criteria. In the contrary, more depressed patients profited more. Even the accumulation of common restriction criteria did not result in a higher effect size. Thus, the absence of sample restriction in this study could not be made responsible for the slightly lower effect size in comparison to the meta-analyses. It also seems unlikely that the slight reduction of the effect size can be explained by sample differences. An explanation could be that most comparison studies are based on the Fear of Negative Evaluation Scale (Watson and Friend, 1969) or the Fear Questionnaire (Marks & Mathews, 1979) which have been reported to have larger treatment sensitivity, resulting in larger effect sizes than the SPS/SIAS (Cox et al. 1998). For a direct comparison with studies using the SPS/SIAS, we calculated the effect sizes based on SPS/SIAS using the formular  $M_{pretest} - M_{posttest} / SD_{pretest}$  for the six other outcome studies mentioned above that had applied either SPS or SIAS or both measures at pre- and posttreatment. These studies achieved a mean of effect size 0.63 ( $SD = .35$ ) for SPS and 0.51 ( $SD = .21$ ) for SIAS which is lower than the ones achieved in the current study, being 0.88 and 0.86 respectively. None of the 29 comparison studies used the Interpersonal Sensitivity scale of the German version of the SCL-90-R, so that a direct comparison was not possible here. However, five studies (Heimberg et al, 1998; Mersch, 1995; Scholing & Emmelkamp, 1993a and 1993b; Stangier et al., in press) did use some form of the SCL-90-R or specific subscales. Effect sizes based on these scales reach a mean effect size of 0.55, which is also lower than the effect size of 0.71 that we found for the SCL-90-GSI. In the light of these findings it seems reasonable to conclude that the effect size found in the present study is comparable with the mean effect sizes found in the meta-analyses.

Given the large sample size and the number of therapists and institutes involved, it also seems justified to conclude that exposure combined with cognitive intervention can be transported to the treatment of patients with social phobia in natural settings, without reducing its effectiveness. Additionally, we found therapist experience to be unrelated to outcome, which is in line with other findings summarized by Bickman (1999), who pointed out the necessity of conducting such studies in a natural environment.

One shortcoming of the present study is the amount of patients (11%) who could not be motivated to complete the follow-up questionnaires at post assessment. We found a tendency for them to occupy an intermediate position between the completers and the dropouts, who

differed significantly from one another on some of the measures. Thus, the question can be raised whether this group of patients differs from the sample of completers concerning the effectiveness of the treatment. On the other hand, 9 of the 24 patients with missing follow-ups agreed to give a rating of improvement, with 7 (77%) rating themselves as better or much better (compared to 52% of the completers), which suggests that they improved at least equally. The amount of missing follow-ups can be explained by the fact that in three of the outpatient clinics, there was no financed personnel to organize the follow-ups. Only 8% actually dropped out of treatment, which is low compared to the outcome studies. Reasons for this can be suspected in the cognitive preparation phase, after which some patients with major concerns about the treatment concept decided not to participate and in the higher binding commitment because of the intensive format and the trouble taken for reimbursement of treatment costs. If the rate of missing follow-ups is added to the rate of dropout it sums up to 19%, which is still in the range of the 29 comparison studies, with a mean dropout-rate of 16% ( $SD = 7.6$ ). The higher depression scores and comorbidity found for patients who drop out of therapy underline the necessity of giving further attention to this group of patients.

Unfortunately, questionnaires defined specifically for the assessment of social phobia (like the SPS and SIAS) as well as the regular assessment of Axis II comorbidity were not part of the diagnostic assessment from the beginning, because of different priorities at the beginning of data collection. Clearly, the Interpersonal Sensitivity scale of the SCI-90-R is not an optimal measure of social phobia as it has not been explicitly validated with social phobic individuals. However, it tends to correlate highly with SPS and SIAS, both in this study ( $r = .65$ ) as well as in a large validation study for SPS and SIAS including 357 patients (Heinrichs et al., 2002). Another limitation of the study is that it is based entirely on self report measures. Independent blind assessor ratings are missing – and should be included from a methodological point of view. In the current setting as well as in other clinical settings with no extramural funding and depending on the insurance companies, it is impractical and too expensive to provide such ratings with hired experienced raters. Finally, it must also be pointed out that recent data from randomised controlled trials suggest a high placebo response rate in social phobia (Fedoroff & Taylor, 2001; Taylor, 1996) and thus the use of pre-treatment expectancy measures might have provided helpful information.

Nevertheless, the present study provides convincing evidence that empirically validated treatment for social phobia, the combination of exposure and cognitive restructuring, can be transported into natural field settings. The results were achieved using a large number of

patients and therapists, which underscores the generalization of the results to other settings and can be added to the list of cumulative evidence for the generalization of research therapy to clinical settings. However, it is most likely that these results require not only a thorough diagnostic procedure to assess social phobia as the primary problem but also frequent and intensive supervision of the therapists.

Table 4.1.

*Pretreatment Means of Dropouts During Treatment (DT), Patients with Missing Follow-ups (MF) and Treatment Completers (TC).*

	DT <i>n</i> = 18		M <i>n</i> = 24		TC <i>n</i> = 175		<i>F</i>	<i>df</i>	<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Age	28.9	9.4	31.6	9.0	34.5	10.4	2.95	2, 214	.06
Duration	8.5	5.3	13.1	11.9	14.2	11.3	2.09	2, 201	.13
Severity	6.4	1.1	6.5	1.1	5.8	1.3	3.04	2, 157	.05*
SCL-GSI	1.31	0.65	1.14	0.53	0.93	0.60	4.18	2, 210	.02* <sub>a</sub>
IS, SCL-90-R	1.90	0.90	1.76	1.00	1.51	0.93	2.12	2, 210	.10
SPS	44.7	21.3	44.7	17.5	37.1	16.7	1.90	2, 114	.16
SIAS	42.4	16.0	44.0	12.5	39.6	16.1	0.61	2, 113	.54
BDI	22.7	11.7	18.3	11.6	14.8	10.1	5.32	2, 207	.01* <sub>b</sub>

\*  $p \leq .05$ ; *a* = significant differences between DT and TC ( $p \leq .05$ ) in post hoc Tukey-HSD test or Games-Howell-Test, *b* = significant differences between DT and TC ( $p \leq .01$ ); Age = age of patients in years, Duration = duration of disorder in years, Severity = severity of disorder in DIPS 1-8 rating; SCL-GSI = Symptom Checklist-90-Revised; Global Severity Index; IS, SCL-90-R = Interpersonal Sensitivity subscale on the SCL-90-R; SPS = Social Phobia Scale; SIAS = Social Interaction Anxiety Scale; BDI = Beck Depression Inventory

Table 4.2.

*Means, Standard Deviations and paired t Tests for Clinical Outcome Measures*

	Pre		Post		<i>df</i>	<i>t</i>	<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Analysis for sample with completed post-assessment ( <i>n</i> = 175)							
SCL-GSI	0.94	0.61	0.51	0.49	157	11.83	.000**
FLZ-GA	25.7	33.0	38.6	33.5	64	-4.12	.000**
FLZ-GG	26.5	31.0	54.4	42.7	72	-6.60	.000**
SCL-IS	1.52	0.95	0.85	0.81	159	11.42	.000**
SPS	37.7	17.1	22.2	16.7	84	10.30	.000**
SIAS	40.0	16.5	25.9	15.6	83	10.60	.000**
BSQ	2.20	0.69	1.70	0.56	148	10.32	.000**
ACQ-KV	2.50	0.76	1.91	0.72	146	10.22	.000**
SCL-A	1.23	0.84	0.64	0.67	157	10.60	.000**
BDI	14.8	10.3	7.8	8.3	154	10.88	.000**
SCL-D	1.19	0.89	0.67	0.72	160	9.58	.000**
Intent-to-treat-analysis ( <i>n</i> = 217)							
SCL-IS	1.57	0.94	1.07	0.92	213	10.41	.000**
SPS	38.6	17.2	27.3	18.8	116	8.89	.000**
SIAS	40.4	15.6	30.2	16.5	115	9.01	.000**
BDI	15.9	10.7	10.7	10.35	209	9.94	.000**

\*\* =  $p \leq .004$ ; SCL-GSI = Symptom Checklist-90-Revised, Global Severity Index; FLZ-GA = Questions on Life Satisfaction, general life satisfaction; FLZ-GG = Questions on Life Satisfaction, satisfaction with health; SCL-IS = Symptom Checklist-90-Revised, Interpersonal Sensitivity; SPS = Social Phobia Scale; SIAS = Social Interaction Anxiety Scale; BSQ = Body Sensation Questionnaire; ACQ-KV = Agoraphobic Cognition Questionnaire, Loss of Control; SCL-A = Symptom Checklist-90-Revised, Anxiety; BDI = Beck Depression Inventory; SCL-D = Symptom Checklist-90-Revised, Depression.

Table 4.3.

*Intragroup Effect Sizes (IGES), Percentage of Patients with Reliable Change (RC), Deterioration (D), Improvement (I) or Maintenance (M) and Clinical Significance Cut-off-Score (CS) with Percentage of Patients in Healthy Population for Clinical Variables*

		RC-POST			Healthy Population		
		M in %	D in %	I in %	CS	% pre	% post
SCL-GSI	0.71	31.6	5.7	62.7	0.51	31	62
FLZ-GA	0.39	66.2	4.6	29.2	43	30	42
FLZ-GG	0.89	41.1	6.8	52.1	48	19	58
SCL-IS	0.71	55.6	1.3	43.1	0.73	24	56
SPS	0.88	28.2	3.5	68.2	20	17	55
SIAS	0.86	42.9	0.0	57.1	26	26	59
BSQ	0.73	73.2	0.7	26.2	2.0	46	74
ACQ - KV	0.78	39.7	6.2	54.1	2.0	34	55
SCL-A	0.70	55.6	1.3	43.1	0.84	41	62
BDI	0.68	51.6	3.2	45.2	9.3	35	69
SCL-D	0.58	57.8	5.0	37.3	0.64	35	62

SCL-GSI = Symptom Checklist-90-Revised, Global Severity Index; FLZ-GA = Questions on Life Satisfaction, general life satisfaction; FLZ-GG = Questions on Life Satisfaction, satisfaction with health; SCL-IS = Symptom Checklist-90-Revised, Interpersonal Sensitivity; SPS = Social Phobia Scale; SIAS = Social Interaction Anxiety Scale; BSQ = Body Sensation Questionnaire; ACQ-KV = Agoraphobic Cognition Questionnaire, Loss of Control; SCL-A = Symptom Checklist-90-Revised, Anxiety; BDI = Beck Depression Inventory; SCL-D = Symptom Checklist-90-Revised, Depression.

Table 4.4.

*Mean Pre – Post Effect Sizes for Subsamples with Different Exclusion Criteria or Sample Characteristics*

	Criteria applied		Remaining sample		Difference		
	Mean ES	n	Mean ES	n	df	t	p
Exclusion of:							
(a) BDI $\geq$ 18	0.76 (0.72)	103	1.28 (1.01)	53	79.8	3.29	.00
(b) prior treatment	0.70 (0.70)	51	0.84 (0.75)	105	154	1.11	.27
(c) low severity (DIPS 1-3)	0.92 (0.80)	101	0.66 (0.68)	19	118	1.33	.19
(d) age >20 or < 50 years	0.77 (0.73)	142	0.85 (0.62)	19	159	.47	.64
Combined a, b, c, d	0.65 (0.67)	30	0.83 (0.73)	131	159	1.27	.21
(e) further Axis I disorders	0.77 (0.68)	97	0.89 (0.80)	64	159	1.07	.29
Sample consists of:							
(f) only students	0.74 (0.74)	35	0.85 (0.71)	117	150	.82	.41
(g) only specific subtype	1.07 (1.09)	15	0.76 (0.71)	131	15.4	1.10	.29
(h) only cognitive reactors	0.76 (0.71)	79	0.74 (0.64)	54	131	0.19	.85

*p* = two-tailed significance

## 5. STUDY III

### *Who Comes, Who Stays, Who Profits? – Predicting Refusal, Dropout, Success, and Relapse in the Treatment of Social Phobia<sup>5</sup>*

#### 5.1. Introduction

The absence of data addressing characteristics of patients who refuse treatment, who drop out or who do not improve from treatment is a major limitation of treatment outcome literature. In the area of social phobia a series of meta-analyses has found a high efficacy of cognitive behavioural treatments, with mean effect sizes ranging from 0.8 to 1.1 (Gould, Buckminster, Pollack, Otto, & Yap, 1997; Fedoroff & Taylor, 2001; Feske & Chambless, 1995; Ruhmland & Margraf, 2001; Taylor, 1996). However, not all patients benefit from the tested treatment approaches. Turner, Beidel, Wolff, Spaulding, and Jacob (1996) calculated treatment success taking into consideration not only patients who completed treatment, but also those who were offered treatment, but refused or dropped out of it. This resulted in an alarmingly low rate of 52% of the patients seeking treatment for social phobia who actually profited from it.

Knowing about factors that are responsible for attrition as well as for failure to benefit from treatment may help to understand the processes underlying treatment and enable the therapist to adapt treatment procedures, delivery and planning accordingly to improve a specific patient's prognosis (van Minnen, Arntz, & Keijsers, 2002). Also, knowledge of prognostic features can be helpful in indicating treatments of choice, since a variety of effective treatment variations are available. Table 1 gives an overview of the findings in 18 studies investigating prognostic factors of refusal, dropout, gain or endstate functioning in the treatment of social phobia. However, the literature review points to a number of limitations in the current state of predictor research for social phobia.

It becomes clear that most attention has been directed to the questions of treatment success, rather than dropout, refusal or relapse after treatment. In fact, refusal and relapse have been

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<sup>5</sup> Article submitted for publication. Authors: Lincoln, T.M., Rief, W., Hahlweg, K., Frank, M., von Witzleben, I.Schröder, B., & Fiegenbaum, W.



thoroughly neglected in prediction research. Research investigating dropout during treatment yields some evidence indicating that higher pretreatment severity and impairment might be

causing some patients to drop out of treatment. This hypothesis will have to receive further attention, as it has important implications for treatment delivery.

**Refusal.** Two studies investigated characteristics of patients who refused to enter the treatment protocol, which meant agreeing to random assignment. Turner et al. (1996) found patients who refused random assignment (15.5%) in a study testing the effects of atenolol, flooding and pill placebo to be less severely impaired, but found no differences on sociodemographic variables, comorbidity or subtype. Juster et al. (1995) found patients who refused random assignment (33%) more likely to be married, not to live alone and to have more income. They found no differences on other socio-demographic variables or in the response to cognitive behavioural treatment.

**Dropout.** We found four studies that had investigated prediction of dropout, with most of the investigated variables showing no predictive value. Participants with a lower expectancy towards treatment were found to drop out more often as well as more impaired patients.

**Relapse.** The least attention has been given to the question of relapse or failure to maintain treatment gain after termination of treatment. Only one study (Mersch et al., 1991) addressed this question and found patients who relapsed after postassessment to be older as well as to have had significantly lower SCL-90 scores at pretest.

**Change.** Most studies have concentrated on predicting change caused by treatment and endstate functioning, focusing on sociodemographic and biographical variables, impairment, severity, subtypes, and comorbidity as potential predictors for change or endstate functioning. The majority of findings are insignificant and most of the significant effects are low.

It seems that demographic and biographical variables generally have little to offer in the way of predicting treatment outcome. The current research has not fully clarified the prognostic value of pretreatment severity and impairment. Studies investigating the impact on treatment change, rather than endstate-functioning, provide contradictory results. We found no studies considering physical anxiety symptoms as a variable of impairment or severity although these might be more resistant to change than cognitions and thus have a negative impact. Studies examining the predictive value of subtypes generally found patients with generalized social phobia to begin and end treatment with more severe symptoms, but to have a similar rate of

improvement to the nongeneralized subtype. One difficulty of testing subtypes as a predictor for treatment response is the absence of clear diagnostic criteria. This has led different authors to use different criteria to distinguish subtypes, making a comparison of results difficult. Some authors point out that the categories are somewhat arbitrarily imposed on a continuum of impairment and suggest using degree of impairment as a continuous measure (Chambless et al., 1997; Stein, Torgrud, & Walker, 2000). Patients without comorbid axis I or axis II disorders have often been found to have lower post-scores on measures of general anxiety and clinical severity but the same rate of improvement as patients without a comorbid disorder. Research on the impact of avoidant personality disorder on treatment outcome has yielded contradicting results which might partly be due to still unsolved conceptual difficulties in the distinction between the generalized subtype of social phobia and avoidant personality disorder. However, there is convincing evidence in support of the hypothesis that comorbid depression is a negative predictor of change. Chambless et al. (1997) found a correlation of  $r = .47$  between depression and residual gain by postassessment. Also, in a study with 1027 respondents, DeWit, Ogborne, Offord, and MacDonald (1999) found the probability of recovery without undergoing treatment to be three times as high when participants reported no additional depression. The amount of research on health related predictor variables was meagre, yielding some evidence for a possible negative impact of chronic health problems (De Wit et al., 1999). Also, Mersch et al. (1991) found a tendency for a negative impact of the use of alcohol and medication. None of the studies investigated the effect of therapist variables such as gender or years of treatment experience or treatment duration on response. However, Feske and Chambless (1995) analysed the effect of treatment duration in their meta-analysis and found a larger number of exposure sessions to produce more favourable outcomes.

Apart from the absence of a row of promising variables, the available studies are limited by the fact that predictors were studied in the context of controlled outcome studies whose inclusion criteria are likely to limit the variability of the factors studied as predictors. Steketee and Shapiro (1995, pp. 341) point out, that “to better serve our client populations, research on predictors should be conducted on naturalistic clinical treatments, as well as on controlled trials”. Specifically in the case of treatment refusal the question must be raised whether refusal of participating in a study with random assignment can be compared to the refusal to take up an (individualized) treatment offer as such.

The first aim of this study is therefore to search for predictors of treatment acceptance, attrition, effectiveness, and relapses after treatment for social phobia in a field treatment outcome study in four outpatient clinics and using a large sample of unselected patients. The second aim is to compare these predictors with variables identified as predictors in the context of controlled efficacy studies.

## 5.2. Method

### 5.2.1. Setting

The Christoph-Dornier Foundation for Clinical Psychology (CDS) runs seven outpatient clinics in Germany, in which patients with a variety of disorders are treated. Patients were referred from different sources, for example, general practitioners, psychotherapists, or psychiatric hospitals. Most of the treatments were paid by the patient's insurance company by reimbursement of expenses. This means that invoicing for treatment sessions is directed to the patient, who can apply for reimbursement with his or her health insurance company. The insurance company is free to decide whether they are prepared to cover the expenses for treatment or not. This decision process mostly takes place after diagnostic assessment, as the health insurances usually expect a brief report of the disorder and a treatment plan as a basis for their decision. Additional treatment-expenses, such as accommodation, tickets, etc. were generally not covered by the health insurance. Therapists were 62 diploma psychologists (roughly equivalent to a master's degree; 58% were female, 42% were male) with training in behaviour therapy.

### 5.2.2. Treatment

Typically, patients were treated with in vivo exposure combined with cognitive interventions. The intensive treatment program is characterized by a short duration, usually lasting about 5-7 days, during which the patients are expected to confront the feared situations for several hours per day. It consists of three main phases:

*Psychological and medical assessment.* Psychological assessment (4-6 50-minute sessions) consists of conducting a reliable and valid structured clinical interview according to the criteria listed in the Diagnostic and Statistic Manual of Mental Disorders (DSM-III-R, 3rd ed., revised, American Psychiatric Association, 1987). The "Diagnostisches Interview bei Psychischen Störungen" [Diagnostic Interview for Psychological Disorders] (DIPS; Margraf, Schneider, & Ehlers, 1991) is the German version of the Anxiety Disorders Interview

Schedule – Revised (ADIS-R; DiNardo, Barlow, Cerny, Vermilyea, Vermilyea et al., 1986). The ADIS-R/DIPS is a semi-structured interview with well-established psychometric properties. A medical check-up is particularly important in the context of exposure since this can be physiologically stressful.

*Diagnostic feedback and cognitive preparation.* Cognitive preparation for therapy takes place about one week after assessment and aims at enhancing the patient's motivation for treatment. The patient's core assumptions about the aetiology of social phobia are integrated into a model that is able to explain the way in which specific patterns engender and maintain social anxiety. Implications for therapy are then delineated on the basis of this model and patients are encouraged to discontinue medication. The patient is given 5-10 days to decide whether to participate in the treatment. The preparation phase is described in detail by Tuschen and Fiegenbaum (1997).

*High-density exposure combined with cognitive interventions.* When the patient decides to participate, exposure and cognitive intervention begin (duration is variable and depends on the individual patient's needs). Exposure to the feared situations plays a central role in the therapy as it enables the patient to experience a certain degree of habituation and helps the therapist to detect and correct core amplifying cognitions, safety behaviours and failure-focused attention. Exposure is combined with restructuring interventions in which the patient is taught to identify and challenge specific negative thoughts, general cognitive errors and perfectionist thinking. At the end of the intensive treatment-phase patients are instructed to continue exposing themselves to the feared situations in their everyday life and are offered further support if necessary. A more detailed description of the treatment concept is given in a former article (Lincoln, Rief, Hahlweg, Frank, von Witzleben, Schroeder et al., 2002).

### 5.2.3. Participants

Participants were 287 patients who were diagnosed with social phobia as the primary disorder according to the criteria listed in DSM-III-R (American Psychiatric Association, 1987), meaning that social phobia was judged by the patients to be the most severe disorder and the one for which they wished treatment. Fifty-six percent of the patients were male. The average age was 33.9 years ( $SD = 10.5$ ) and the average duration of disorder was 13.8 years ( $SD = 11.7$ ). Eighty-one percent had already undergone some form of psychotherapy or medical treatment, 24% had been hospitalised due to mental problems. Thirty-nine percent were

married or living with a partner, 33% had completed secondary school, 33% had a high school degree and 34% a university degree.

Of these 287 patients, 241 came to the cognitive preparation session and 217 decided to begin treatment, of which 199 completed it. Treatment effectiveness has been described in detail in a former study (Lincoln et al., 2002). A total of 175 patients completed the post assessment and 101 completed a one-year follow-up. Figure 1 displays this attrition process. The high number of missing follow-ups is due to financial restrictions. In three of the institutes there was no financed personal to organize follow-ups and patients could not be paid to complete the questionnaires.

## 5.2.4. Measures

### 5.2.4.1. Predictors

*Demographic and biographical variables.* Age, age at onset, duration of disorder, prior treatment experience, gender, marital status (0 = married, 1 = living with partner, 2 = partnership, 3 = single), and educational level (0 = no school degree, 1 = secondary modern school, 2 = advanced secondary school, 3 = A-level, 4 = university degree) were collected with the aid of an application questionnaire, which was completed by all patients.

*Severity and Impairment.* Patients rated their subjective feeling of impairment on a five-point rating scale (0 = not at all, 1 = a little, 2 = moderately, 3 = severely, 4 = extremely). The intensity of the perceived distress was measured with the SCL-90-R, Global Severity Index (SCL-GSI; Derogatis, 1994; German version: Franke, 1995), which is based on all 90 items of the SCL-90-R assessing nine primary symptom dimensions. Internal consistency for the German version of the SCL-90 is .97. The therapists rated the severity of the disorder on a scale from 0-8 as a result of the diagnostic interview (DIPS). Subjective symptom severity was assessed with the Social Phobia Scale and the Social Interaction Anxiety Scale (SPS/SIAS, Mattick & Clarke, 1998; German Version: Stangier, Heidenreich, Bernardi, Golbs, & Hoyer, 1999). The SPS/SIAS is a 40-item self-report questionnaire, consisting of two scales assessing the fear of being observed and evaluated by others as well as interaction anxiety. Internal consistency for the German version is .94 for the SIAS and .94 for the SPS. As the SPS/SIAS was not given to patients from the beginning of the study, calculations can only be made for a smaller sample of  $n = 85$  (SPS) and  $n = 84$  (SIAS). Physical symptoms a patient generally experienced during a social situation were assessed in the DIPS, the Body Sensation Questionnaire (BSQ; Chambless, Caputo, Bright, & Gallagher, 1984; German

version: Ehlers, Margraf, & Chambless, 1993) and the Beck Anxiety Inventory (BAI; Beck & Steer, 1993; German Version: Ehlers & Margraf, in press). The BSQ is a 17-item questionnaire to measure anxiety with regard to bodily symptoms, with an internal consistency of 0.85 for the German version. The BAI was used to assess physical arousal symptoms. Although originally developed to measure symptoms of anxiety in general, recent research supports the view that the BAI is more sensitive to panic related symptoms than to other aspects of anxiety, such as worry and tension (Antony, Purdon, Swinson, & Downie, 1997).

*Subtypes.* Subtypes were considered on a continuum of the amount of 13 social situations in the DIPS, in which the patient had described anxiety as being at least moderate (0 = no anxiety, 1 = slight anxiety, 2 = moderate anxiety, 3 = severe anxiety, 4 = extremely severe anxiety) as well as the total score of anxiety for all these situations.

*Comorbidity.* Comorbid disorders were diagnosed based on the information in the DIPS. Additionally, patients completed disorder specific questionnaires. Symptoms and severity of depression were measured with the Beck Depression Inventory (BDI, Beck & Steer, 1987; German version: Hautzinger, Bailer, Worall, & Keller, 1995), a 21-item self-report questionnaire. Obsessive-compulsive symptoms were assessed with a short version of the Hamburg Obsessive-Compulsive Inventory (HZI; Zaworka, Hand, Jauernig, & Lünenschloß, 1983), which includes items on obsessive behaviour as well as ruminations prior to acting. Agoraphobic cognitions were measured with the Agoraphobic Cognition Questionnaire (ACQ; Chambless et al., 1984; German version: Ehlers et al., 1993). Avoidance with regard to common agoraphobic situations was assessed by the Mobility Inventory, subscale Alone (MI-A; Chambless, Caputo, Jasin, Gracely, & Williams, 1985; German version: Ehlers et al., 1993). Hypochondrias was measured with the Whiteley-Index (WI; Pilowsky, 1967; German Version: Rief, Hiller, Geissner, & Fichter, 1994), which assesses disease phobia, bodily preoccupation, and disease conviction.

*Health related variables.* Chronic health problems were assessed by the application questionnaire and the medical report of the examination before treatment. Satisfaction with health was measured by the “Satisfaction with Health” subscale of Questions on Life Satisfaction (FLZ-GG; Henrich & Herschbach, 2000; German Version: Henrich & Herschbach, 1996). Internal consistency for the German version is .89. As the FLZ-GG was not given to patients from the beginning, calculations can only be made for a smaller sample of  $n = 65$ . Alcohol use was assessed by the self-evaluation scale of the Münchner

Alkoholismus-Test [Munich alcoholism test] (MALT-S, Feuerlein, Kufner, Ringer, & Antons-Volmerg, 1999). The MALT-S scale contains 24 items that assess three relevant aspects of alcoholism: drinking and attitude towards drinking, alcohol related psychological and social impairment, and somatic complaints. It has a split-half reliability of 0.94. The use of benzodiazepines was assessed by the application questionnaire and the DIPS.

*Treatment and therapist variables.* The experience of the therapists was coded on a 6-point scale, according to the number of patients with any disorder treated so far (1 = 1-10 patients treated with any disorder, 2 = 11-20 patients etc.).

#### 5.2.4.2. Treatment outcome

*Symptom Checklist-90-Revised – Interpersonal Sensitivity* (SCL-IS; Derogatis, 1983; German version: Franke, 1995). This subscale assesses feelings of social uncertainty and fears of being observed or judged negatively. Internal consistency for the German version of the SCL-IS is .86.

*Rating of global improvement* (RGI). A 7-point rating scale (1 = very much better, 2 = much better, 3 = better, 4 = no change, 5 = worse, 6 = much worse, and 7 = very much worse) was used to assess the subjective perception of improvement. The RGI can be considered as a global consumer satisfaction measure.

#### 5.2.5. Analysis

Analysis was conducted in a series of steps. In a preliminary analysis of treatment attrition, reasons for patient discontinuation and dropout were investigated and patients were classified as refusers, dropouts and treatment completers. Second, in order to find pre-treatment differences between patients who refused treatment and those who completed it ANOVA or chi-square tests were computed.

Third, for prediction of treatment change, the first step was to compute bivariate correlations between potential predictors and SCL-90-Interpersonal Sensitivity “Residual Gain Scores” (RGS) as well as the ratings of global improvement (RGI) at post treatment and one-year-follow-up (F1) for the completers. To compute residual gain, raw scores from pre, post, and F1 assessment are first converted into Z scores. Change is calculated by subtracting the Time 1 score, multiplied by the correlation between scores at time 1 and 2 from the time 2 score ( $RGS = Z_{post} - Z_{pre} r_{prepost}$ ). Thus, residual gain rescales an individual’s score relative to typical gains made by others at the same initial level. We then regressed each factor on the predictors (method stepwise) to take into account the shared variance of the individual

predictors. To safeguard adequate predictive power, we selected only those predictors that related ( $p < .05$ ) to RGS or RGI and entered them into the equations.

Finally, for the prediction of relapse in the 90 patients that had completed the SCL-IS at post as well as F1, we calculated “Reliable Change Indexes” (RCI) using the formula by Jacobson, Follette, and Revenstorf (1984), with  $RCI = (M_{POSTTEST} - M_{F1})/SE$ , and  $SE = SD_{POSTTEST} \sqrt{1 - r_{xx'}}$ , where  $r_{xx'}$  is the reliability of the measure. Following the authors’ suggestions, we categorized a patient as deteriorated if the RCI was lower than - 1.96. Then we calculated differences in pre-treatment and post-treatment variables between those who had improved further or remained stable from post to F1 and those who had deteriorated. Finally, variables that significantly differentiated the two groups were entered into logistic regression.

## 5.3. Results

### 5.3.1. Preliminary Analyses

Thirty percent of the group of treatment refusers after diagnostic assessment gave a reason for discontinuation of treatment. Of these, 60% stated that they discontinued because the health insurance refused to cover the costs, another 20% had began treatment elsewhere, 13% had doubts concerning the treatment concept, and 7% reported organizational difficulties. Thus it can be assumed that many of these patients either completed treatment elsewhere or will eventually return to treatment when other problems have been resolved or treatment can be more easily afforded. The group of dropouts after cognitive preparation, who had received an individualized treatment offer presented a different pattern of reasons. Seventy-five percent of this group provided us with a reason for discontinuation. Of these, a far lower percentage of patients discontinued for financial reasons (28%), but many felt that treatment was too difficult to endure (22%) or were sceptical about the treatment rational (17%). Similarly, for the group of dropouts during treatment, of which 63% gave us the reason, 17% felt the treatment to difficult to endure, 8% were sceptical of the rational and 42% marked the rubric “other reasons”, which may have included problems in the therapeutic relationship. As a consequence, refusers after diagnostic procedure must be regarded separately from refusers after cognitive preparation and interpretation of results in this group must be treated with caution. On the basis of this analysis, we decided to categorize the sample as follows: refusers after diagnostic procedure (RD = 16%), refusers after cognitive preparation (RC = 8%), treatment dropouts (TD = 6%) and treatment completers (TC = 69%).



### 5.3.2. Predictors of Treatment Refusal and Dropout

Table 5.2. shows the pretreatment variables for refusers after diagnostic procedure (RD), refusers after the cognitive preparation phase (RC), dropouts during therapy (TD) and treatment completers (TC). Because of the high number of comparisons we applied Bonferoni-adjustment for each comparison separately ( $p = .05/32 = .002$ ). On this basis, the groups only differed significantly in their number of comorbid diagnoses and their mean value on the MI-A. TD reached higher scores on the MI-A than any of the other groups.

An additional analysis of group differences, in which all patients giving a financial reason for discontinuing were excluded from the calculation produced the same results, apart from one difference: patients, who refused treatment after diagnostic assessment were using medication significantly less often (23%), than patients who refused after cognitive preparation (56%), dropped out during treatment (75%) or completed treatment (57%), ( $Chi^2 = 16.4$ ,  $df = 3$ ,  $p = .001$ ).

### 5.3.3. Predictors of Treatment Outcome

The results of the two-tailed bivariate correlations between predictors and RGS as well as RGI<sup>6</sup> are shown in table 3. With regard to the RGS at post, the WI was the only significant predictor. Patients revealing more symptoms of hypochondriasis revealed less treatment change at post.

Predictors for RGI at post were the SPS, BSQ, BAI, the number of feared situations as well as the perceived anxiety in these situations, the BDI and the FLZ-GG. Patients who experienced more impairment before treatment on these measures rated themselves as having improved less at post. These seven variables were entered to predict RGI at post. Only the FLZ-GG made a significant contribution with a regression coefficient of  $B = -0.01$  ( $\beta = -.40$ ;  $p < .01$ ) and explained 16% of the total variance. Due to missing data in one or more of the predictor variables, only 60 patients were entered into the analysis.

By the 1-year follow-up (F1), patients with a higher level of education revealed less change. Also, the number of feared social situations as well as the amount of anxiety in these situations were negatively related to RGS at F1. These three variables were entered into the

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<sup>6</sup> Patient ratings of global improvement were highly correlated with therapist ratings of global improvement for post ( $r = .68$ ,  $p < .01$ ) and for F1 ( $r = .81$ ,  $p < .01$ ).

linear regression analysis with the RGS at F1 as dependent variable. The amount of fear in social situations ( $B = .03$ ;  $\beta = .32$ ;  $p < .01$ ) and the level of education ( $B = .21$ ;  $\beta = .25$ ;  $p < .05$ ) both made a significant contribution to predicting treatment change and accounted for 13% of the total variance for  $N = 89$  patients.

Predictors for the RGI at F1 were gender, marital status, SCL-GSI, SPS, BAI, the number of feared situations as well as the perceived anxiety in these situations, BDI, ACQ, FLZ-GG and number of treatment sessions. Female as well as married patients tended to rate themselves more improved. On the questionnaires, the severity or impairment before treatment was a negative predictor for perceived improvement. Patients who received a higher number of treatment sessions rated themselves as less improved at F1. Two of the eleven variables entered into linear regression to predict RGI at F1 made a significant contribution. The marital status had a regression coefficient of  $B = 0.24$  ( $\beta = .36$ ;  $p < .05$ ) and the FLZ-GG had a regression coefficient of  $B = -0.01$  ( $\beta = -.35$ ;  $p < .05$ ) for  $N = 31$  patients. Together these two variables explained 28% of the total variance.

#### 5.3.4. Predictors of Deterioration after Treatment

The results of the calculation of differences in pretreatment as well as in posttreatment variables between those who had improved further from post to F1 and patients who had deteriorated are depicted in table 4. Patients who could not maintain their treatment gain were shown to be significantly younger, to have higher pre-treatment-scores on the SPS, higher pretreatment and posttreatment scores on the SIAS, a larger number of feared social situations as well as higher levels of anxiety in these situations. These variables were entered into logistic regression (forwards, wald). Only the pretreatment score of the SPS reached statistic significance as a predictor, with a coefficient of  $B = -.12$  (wald = 5.4;  $p < .05$ ;  $N = 39$ ) and accounted for 24% of the total variance.

### 5.4. Discussion

The calculation by Turner et al. (1996), in which they estimated 52% of the patients seeking treatment as actually profiting from it, is underlined by our data from the clinical field. If we consider not only patients who refused after cognitive preparation, but also those who discontinued after diagnostic procedure and did not justify refusal with financial difficulties and add the rate of patients who dropped out during treatment, we are left with 80% of the patients who completed treatment. For these, we can consider a rate of 56% reliably improved

patients at post, which was calculated in a former study (Lincoln et al., 2002) and optimistically assume that patients who did not send back the follow-up questionnaires equally improved, and we are left with a rate of 43%. Our study was to our knowledge the first field study investigating predictors of refusal, dropout and treatment response for social phobia treatment. In the next section, some of the findings will be discussed in detail.

First, it seems important to point out that treatment refusers are not a less severely impaired group of patients that we do not have to be overly concerned about. Twenty-five percent even of this group have already been hospitalised for mental problems, and they achieve results comparable to treatment completers on all pretreatment questionnaires.

Patients who dropped out during treatment revealed more avoidance behaviour than any of the other groups as indicated by the higher scores on the MI-A. In line with this finding is the significant difference between the groups in the number of comorbid diagnoses. Possibly, the higher comorbidity causes these patients to feel more uncertain about whether the treatment is going to be sufficient. Additionally, dropout might be explained by the tendency for these patients to be characterized by higher rates of depression. A depressive attribution style will tend to be more global and stable (e.g. I will always be a total loser) and lead patients to give up more readily, when treatment success does not become visible quickly enough. Thus, in the case of intensive treatment with a large amount of exposure elements it seems to be more important to make sure a depressed patient completes treatment than to worry about treatment response. In spite of slightly contradictory results about the exact way in which depression interferes with treatment, some authors come to the conclusion that it may be wise to spend more time tracing and dealing with pretreatment hampering cognitions or argue for concurrent treatment of anxiety and depression for the more depressed patients (Scholing & Emmelkamp, 1999; Chambless et al., 1997; Rief, Auer, Wambach, & Fichter, in press; Heinrichs et al., 2001).

Although there were a number of significant, but low correlations between pre-treatment variables and change or subjective improvement, there were not many significant predictors once variables were entered into linear regression. The “satisfaction with health” subscale of the FLZ was the most significant predictor in the regression analysis of subjective improvement at post and 1-year follow-up, without, however, predicting actual change. Also, more objective data, such as the presence of chronic disease, as reported in the medical report or stated by patients in the application questionnaire did not show any relationship to improvement. High scores on the FLZ-GG might reflect a positive thinking bias. Patients who

reveal less discrepancy between importance of health aspects and satisfaction with these aspects might generally tend to be less sensitive to negative discrepancies in their life.

More generalized social phobia (indicated by a higher amount of fear in social situations) was a negative predictor of change at 1-year-follow up, which stands in contrast to the results of former studies finding no effect of subtype on change (Brown et al., 1995; Hope et al., 1995; Turner et al., 1996). However, most of these studies did not predict change by 1-year follow-up and all used a dichotomic subtyping scheme. Chambless et al. (1997), using a similar approach (continuum of impairment instead of dichotomised subtypes) found no correlation with change at post symptoms, but a weak correlation after six months. Hope et al. (1995) did not find subtypes to improve unequally by one-year follow-up, but they only had a small sample ( $N = 16$ ) for their follow-up assessment and the effect is not a very large one. Our finding seems plausible because patients with more generalized social phobia still suffer more from symptoms and avoidance after treatment, possibly leading to fewer positive new experiences in social situations and thus making it harder to maintain treatment gain over a longer period of time.

We also found a higher level of education to be a negative predictor of change at 1-year-follow up. This finding is new as the available studies did not investigate the effect of education on change or endstate functioning. However, the effect is small and definitely needs to be replicated before giving it further attention. Finally, patients, who were married rated themselves as more improved after one year. This finding also stands in contrast to the results in other studies, finding no impact of marital status for social phobic patients (Salabería & Echeburúa, 1996), but is in line with findings by Heinrichs, Hahlweg, Fiegenbaum, Frank, & Schroeder (2001) for patients with panic and agoraphobia. It seems, that future research should give more attention to the impact of marriage and partnership.

Although depression added no significant contribution in the regression analyses we would like to point out, that symptoms of depression were related to subjective improvement ratings at post and F1, but not to symptom change. Possibly, the global improvement ratings are vulnerable to depression, because depressed patients tend to evaluate success less optimistically. This explanation also fits in well with the finding of Chambless et al. (1997), who found depressed patients to reveal less change in the self-report measures, but to be rated more positively by observers.

For prediction of deterioration after treatment, only the pretreatment score on the SPS added a significant contribution to the regression analysis. Patients with higher pretreatment social

phobia scores were more likely to relapse. This contradicts the finding by Mersch et al. (1991), who found patients who relapsed to have had lower pretreatment severity scores. However, their method of categorization was different, including patients who made no further progress in the category of relapse. Also, our finding is supported by the other significant correlations, indicating that patients with a more generalized form of social phobia deteriorated more often after treatment as well as by the negative predictors of long-term treatment change. In sum, our data indicate that less severely disordered patients tend to find it easier to keep up a stable treatment gain over a longer period of time.

**Limitations and Considerations.** One limitation of the study is that the Personal Sensitivity subscale of the SCL-90-R was the only outcome variable available for the entire sample. Observer rated outcome as well as more specific measures of social fear and avoidance would have been a better indicator of treatment success. Also, the high percentage of missing follow-ups after one year makes the generalisation of the predictors of long-term change contestable. On the other hand, this high rate of missing data might reflect the reality of field treatment, in which patients are under no obligation to send back follow-ups. A further limitation is that not all variables of interest (e.g. Axis II comorbidity, motivation and expectancy) were assessed, which complicates the search for important predictors, as regression coefficients change with every change in the predicting variables. This limitation is due to a long period of data collection and the fact, that at the beginning some variables were considered to be less important.

One problem of long-term follow-up assessments is that it is difficult to control for all the important variables that may influence outcome. For example, Chambless et al. (1997) found medication use and additional treatment between posttest and follow-up to predict outcome and thus controlled for these factors in her study. Although approximately one third of our sample received some form of additional treatment after postassessment, ranging from brief counselling or relaxation to another attempt at cognitive behaviour therapy this revealed no significant relationship to residual gain or reliable change at one-year follow up.

Generally, research on treatment predictors has not led to a great insight in the sense that a particular factor can be seen as mainly responsible for treatment failures. Even if larger effects were found, it is always possible that an unknown third variable moderates the relationship. But, as in the experimental settings, the effect sizes in this study are generally small, suggesting that specific pretreatment variables are of limited value, and that it is more helpful to interpret patterns of predictors. However, some important clinical implications should be

emphasised: (1) The group of treatment refusers is as severely impaired by social phobic symptoms as patients who undergo treatment. Additional efforts are needed to motivate these patients to take up treatment. (2) Cognitive preparation and the beginning of treatment should be even more adapted to depression or other comorbid disorders, by restructuring hampering cognitions or conducting disorder-specific additional treatment. (3) It seems important to arrange for additional sessions over a specific period of time when patients are more severely impaired or suffer from more generalized social phobia, to enable them to integrate the treatment effects into their everyday life.

Table 5.1.

*Overview of Predictors for Treatment Refusal, Dropout, Treatment Change, Endstate Functioning and Relapse after Treatment for Social Phobia*

Predictors	Refusal	Dropout	Change	Endstate	Relapse
Older Age	0 <sup>9, 18</sup>	0 <sup>15, 18</sup>	0 <sup>15, 3</sup>	+ <sup>12</sup>	+ <sup>12</sup>
Gender	0 <sup>9, 18</sup>	0 <sup>15, 18</sup>	0 <sup>15</sup>	0 <sup>13</sup>	0 <sup>12</sup>
Marital Status	+ <sup>9</sup> 0 <sup>18</sup>	0 <sup>15, 18</sup>	0 <sup>15</sup>		
Education	0 <sup>9, 18</sup>	0 <sup>18</sup>			
Occupation	0 <sup>9</sup>	0 <sup>15</sup>	0 <sup>15</sup>		
older Age at onset	0 <sup>18</sup>	0 <sup>18</sup>	- <sup>4</sup>	- <sup>4</sup>	
Duration of Disorder	0 <sup>9</sup>		0 <sup>3</sup>		
More family members			- <sup>4</sup>	- <sup>4</sup>	
Medication use			- <sup>5</sup>		
Earlier treatment trials				- <sup>12</sup>	
Severity/Impairment	0 <sup>9</sup> - <sup>18</sup>	- <sup>18</sup>	- <sup>16</sup> 0 <sup>3, 5</sup>	- <sup>12, 13, 15</sup>	- <sup>12</sup>
Behavioural impairment	0 <sup>18</sup>	+ <sup>15</sup>		- <sup>12</sup>	
Comorbid Axis I	0 <sup>9, 18</sup>	0 <sup>18, 11</sup>	0 <sup>18, 11</sup>	- <sup>18</sup> 0 <sup>11, 13</sup>	
Depression			- <sup>5, 16</sup>	0 <sup>13</sup>	
Generalized Subtype	0 <sup>18</sup>	0 <sup>18</sup>	0 <sup>2, 8, 18</sup>	- <sup>2, 8, 18</sup>	
Comorbid Axis II	0 <sup>9, 18</sup>	0 <sup>18</sup>	- <sup>2, 5, 7, 17, 18</sup>	- <sup>18, 7, 8</sup>	
High Expectancy		0 <sup>14</sup> - <sup>15</sup>	+ <sup>5, 14</sup>	+ <sup>15</sup>	
Locus of Control				0 <sup>10</sup>	
Homework Compliance				+ <sup>6, 10</sup>	

- = negative predictor, + = positive predictor; 0 = no significant effect found, 1 = Alden & Capreol (1993),  $n = 76$ ; 2 = Brown, Heimberg, & Juster (1995),  $n = 104$ ; 3 = Butler, Cullington, Munby, Amies, & Gelder (1984),  $n = 49$ ; 4 = Cameron, Thyer, Feckner, Nesse, & Curtis (1986),  $n = 41$  (including specific phobia and agoraphobia); 5 = Chambless, Tran, & Glass (1997),  $n = 62$ ; 6 = Edelman & Chambless (1995),  $n = 52$ ; 7 = Feske, Perry, Chambless, Renneberg, & Goldstein (1996),  $n = 60$ ; 8 = Hope, Herbert, & White (1995),  $n = 28$ ; 9 = Juster, Heimberg, & Engelberg (1995),  $n = 70$ ; 10 = Leung & Heimberg (1996),  $n = 104$ ; 11 = Mennin, Heimberg, & MacAndrew (2000),  $n = 122$ ; 12 = Mersch, Emmelkamp, & Lips (1991),  $n = 47$ ; 13 = Otto, Pollack, Gould, Worthington, McArdle, et al. (2000),  $n = 15$ ; 14 = Safren, Heimberg, & Juster (1997),  $n = 113$ ; 15 = Salabería & Echeburúa (1996),  $n = 48$ ; 16 = Scholing & Emmelkamp (1999),  $n = 50$ ; 17 = Turner (1987),  $n = 13$ ; 18 = Turner, Beidel, Wolff, Spaulding, & Jacob (1996),  $n = 84$ .

Table 5.2.

*Mean (SD) and Percentages of Variables at Pre-treatment for Refusers after First Session and Diagnostic Procedure (RD), Refusers after Cognitive Preparation (RC), Treatment Dropouts (TD) and Completers (TC).*

	RD = 46	RC = 24	TD = 18	TC = 199	df	Test-Value	p
<b>Demographic and biographical variables</b>							
Age	33.8 (10.4)	35.4 (10.4)	29.4 (9.4)	34.1 (10.2)	280	$F = 1.4$	.241
Male	63%	50%	42%	58%	3	$Chi^2 = 2.3$	.512
Marital Status					6	$Chi^2 = 7.6$	.266
Married	34%	33%	18%	32%			
Partner	14%	21%	6%	25%			
No partner	46%	46%	77%	43%			
Education					6	$Chi^2 = 3.7$	.712
Sec. School	27%	33%	47%	36%			
High School	38%	25%	26%	32%			
University	36%	42%	32%	32%			
Age at onset	20.1 (10.6)	20.4 (9.6)	19.3 (10.7)	19.8 (9.5)	263	$F = 0.48$	.986
Duration	13.4 (14.2)	15.2 (12.7)	9.8 (7.8)	14.1 (11.4)	260	$F = 0.84$	.474
Pre-treatment					6	$Chi^2 = 8.8$	.187
None	21%	9%	6%	22%			
Outpatient	52%	57%	50%	57%			
Inpatient	26%	35%	44%	21%			
Medication	37%	48%	71%	57%	3	$Chi^2 = 8.1$	.045
<b>Severity and Impairment</b>							
General	3.4 (.73)	3.8 (.52)	3.8 (.43)	3.4 (.67)	207	$F = 3.32$	.021
Impairment							
SCL-GSI	1.09 (0.59)	1.15 (0.48)	1.32 (0.65)	0.96 (0.59)	264	$F = 2.68$	.047
SPS	34.9 (15.4)	40.4 (12.8)	44.7 (21.3)	38.2 (16.9)	149	$F = 0.73$	.538
SIAS	41.1 (13.4)	42.5 (15.1)	42.4 (16.0)	40.3 (15.6)	148	$F = 0.13$	.941
DIPS	5.7 (1.6)	6.2 (1.5)	6.4 (1.2)	5.9 (1.3)	197	$F = 1.02$	.386
SCL-IS	1.73 (0.94)	1.98 (1.15)	1.96 (0.90)	1.54 (0.94)	265	$F = 2.38$	.047
<b>Subtypes</b>							
Situations	6.4 (2.7)	6.3 (2.9)	7.4 (3.0)	6.7 (3.0)	254	$F = 0.50$	.683
Anxiety	21.5 (9.0)	22.8 (10.1)	25.8 (10.6)	21.8 (9.3)	255	$F = 1.09$	.353
<b>Comorbidity</b>							
Diagnoses	0.5 (0.7)	1.0 (0.9)	1.3 (1.3)	0.5 (0.7)	283	$F = 8.52$	.000
BDI	18.6 (8.6)	17.1 (8.5)	22.7 (11.7)	15.3 (10.4)	259	$F = 3.64$	.013
HZI-G	2.5 (2.5)	2.1 (1.3)	3.9 (2.5)	2.4 (2.1)	213	$F = 1.86$	.137
HZI-H	2.6 (2.3)	2.6 (2.0)	3.3 (1.7)	3.0 (1.9)	213	$F = 0.59$	.625
ACQ	1.9 (0.6)	2.2 (0.5)	2.3 (0.9)	1.9 (0.5)	260	$F = 3.78$	.011
MI-A	1.8 (0.7)	1.9 (0.8)	2.6 (1.0) <sup>a</sup>	1.8 (0.7)	229	$F = 6.37$	.000
WI	3.9 (3.6)	4.2 (3.2)	4.5 (3.2)	2.8 (2.7)	226	$F = 3.29$	.022
<b>Physical symptoms</b>							
Symptoms	14.7 (7.8)	19.5 (8.3)	18.9 (12.5)	17.3 (8.5)	250	$F = 1.70$	.168
BSQ	2.2 (0.6)	2.4 (0.8)	2.4 (0.7)	2.2 (0.7)	254	$F = 0.92$	.431
BAI	19.9 (11.6)	25.6 (11.8)	24.5 (12.2)	21.1 (12.1)	253	$F = 1.42$	.236



Health related variables							
FLZGG	5.4 (28.8)	14.1 (34.8)	15.0 (23.5)	23.8 (31.4)	137	$F = 2.03$	.112
Chronic illness	16%	0%	7%	15%	3	$Chi^2 = 4.5$	.213
MALT	3.3 (4.5)	2.9 (4.3)	1.8 (1.6)	2.9 (3.3)	219	$F = 0.57$	.638
Benzo-diazepine	5%	17%	12%	19%	3	$Chi^2 = 5.3$	.153
Therapist Variables							
Experience	2.6	2.5	2.3	2.2	275	$F = 1.83$	.142
Male	54%	30%	32%	44%	3	$Chi^2 = 4.4$	.218

<sup>a</sup> = differences between TD and TC in post hoc Tukey-HSD, Games-Howell or Chi<sup>2</sup> Test ( $p \leq .01$ ); SCL-GSI = Symptom Checklist-90-Revised, Global Severity Index; SPS = Social Phobia Scale; SIAS = Social Interaction Anxiety Scale; DIPS = Diagnostic Interview for Psychological Disorders; SCL-IS = Symptom Checklist-90-Revised, Interpersonal Sensitivity; BDI = Beck Depression Inventory; HZI-G, Hamburg Obsessive Compulsive Inventory – Ruminations; HZI-H; Hamburg Obsessive Compulsive Inventory – Obsessive Behaviour; ACQ = Agoraphobic Cognition Questionnaire; MI-A = Mobility Inventory, Alone; WI = Whiteley Index; BSQ = Body Sensation Questionnaire; BAI = Beck Anxiety Inventory; FLZ-GG = Questions on Life Satisfaction, satisfaction with health; MALT = Munich Alcoholism Test.

Table 5.3.

*Bivariate Correlations Between Potential Predictors and Residual Gain Scores (RGS) of Social Phobic Symptoms and Subjective Rating of Global Improvement (RGI) of Completers at Posttreatment (post) and One-year follow-up (F1)*

	Post		F1	
	SCL-IS (N)		SCL-IS (N)	
	RGS	RGI	RGS	RGI
Demographic and biographical variables				
Age	-.00 (160)	.10 (166)	-.10 (100)	-.10 (118)
Gender	.05 (160)	.05 (167)	.02 (100)	.28 (119)**
Education	-.02 (157)	-.07 (164)	.20 (99)*	.12 (117)
Marital status	.02 (157)	-.10 (165)	-.03 (99)	.20 (118)*
Age at onset	.04 (149)	.04 (156)	-.00 (97)	-.04 (114)
Duration	-.03 (149)	.05 (155)	-.10 (97)	-.04 (113)
Prior treatment	.06 (155)	.11 (162)	.07 (98)	.17 (117)
Medication	.08 (156)	.05 (163)	-.05 (99)	-.06 (118)
Severity & Impairment				
Impairment	.02 (112)	-.03 (115)	.10 (73)	-.20 (81)
SCL-GSI	.03 (159)	.13 (164)	.04 (100)	.27 (117)**
DIPS	-.03 (120)	.15 (129)	.06 (81)	.19 (95)
SPS	.05 (84)	.26 (82)*	.23 (48)	.29 (52)*
SIAS	.07 (83)	.18 (81)	.14 (48)	.23 (52)
Physical symptoms	.01 (143)	-.04 (150)	.02 (90)	.16 (109)
BSQ	.14 (154)	.20 (158)*	.01 (95)	.16 (111)
BAI	.10 (152)	.16 (157)*	.03 (95)	.23 (111)*
Subtypes				
Situations	.06 (145)	.17 (152)*	.26 (91)*	.27 (110)**
Anxiety	.11 (145)	.22 (152)**	.27 (91)**	.30 (110)**
Comorbidity				
Diagnoses	-.08 (160)	.03 (167)	-.05 (100)	.09 (119)
BDI	.09 (155)	.23 (160)**	.09 (97)	.23 (113)*
HZI-G	-.01 (139)	-.08 (141)	.08 (86)	.02 (102)
HZI-H	.02 (139)	.02 (141)	-.10 (86)	.08 (102)
ACQ	.13 (157)	.11 (161)	.04 (98)	.24 (114)**
MI-A	-.08 (141)	.03 (147)	.04 (86)	.14 (101)
WI	.19 (139)*	.15 (139)	-.02 (87)	.19 (96)
Health related variables				
FLZ-GG	-.11 (77)	-.34 (74)**	-.04 (45)	-.37 (48)**
Chronic disease	-.06 (82)	.01 (86)	-.05 (52)	-.12 (60)
MALT	.12 (133)	-.06 (138)	.01 (88)	.19 (100)
Benzodiazepines	.10 (156)	.15 (163)	.03 (99)	.02 (118)
Treatment and therapist variables				
Gender	.11 (156)	.02 (163)	.05 (98)	-.05 (117)
Experience	.03 (155)	-.04 (162)	.13 (97)	-.10 (116)
No. Sessions	.09 (121)	.08 (125)	.10 (77)	.27 (93)**

Sample numbers for correlations are additionally reduced by missing data in the assessment measures. \* =  $p \leq .05$ , \*\* =  $p \leq .01$  for significant correlations; SCL-GSI = Symptom Checklist-90-Revised, Global Severity Index; DIPS = Diagnostic Interview for Psychological Disorders; SPS = Social Phobia Scale; SIAS = Social Interaction Anxiety Scale; BSQ = Body Sensation Questionnaire; BAI = Beck Anxiety Inventory; BDI = Beck Depression Inventory, HZI-G = Hamburg Obsessive Compulsive Inventory – Ruminations; HZI-H = Hamburg Obsessive Compulsive Inventory – Obsessive Behaviour; ACQ = Agoraphobic Cognition Questionnaire; MI-A = Mobility Inventory, Alone; WI = Whiteley Index; FLZ-GG = Questions on Life Satisfaction, Satisfaction with Health; MALT = Munich Alcoholism Test.

Table 5.4.

*Means and Standard Deviations or Percentages of Variables at Pre- and Postassessment for Patients who Deteriorated (DET) or Remained Stable (STAB) between Post- and 1-year Follow-up*

	DET N = 12	STAB N = 78	Test-Value	df	p
<b>Demographic and biographical variables</b>					
Age	29.8 (5.4)	34.1 (10.0)	t = -2.2	24.7	.037*
Male	75%	53%	Chi <sup>2</sup> = 2.1	1	.145
Marital status	17% married	32% married	Chi <sup>2</sup> = 1.4	2	.491
	25% partner	26% partner			
	58% solo	42% solo			
Educational level	0% none	2% none	Chi <sup>2</sup> = 1.8	3	.621
	25% sec. school	37% sec. school			
	33% high school	33% high school			
	42% university	28% university			
Age at onset	19.4 (3.3)	20.8 (9.9)	t = -0.9	49.6	.353
Duration	10.4 (3.9)	13.3 (10.7)	t = -1.7	44.8	.095
Prior treatment	83% Outpatient	59% Outpatient	Chi <sup>2</sup> = 2.6	1	.109
	25% Inpatient	12% Inpatient	Chi <sup>2</sup> = 1.5	1	.217
	67% Medication	37% Medication	Chi <sup>2</sup> = 3.8	1	.051
<b>Severity and Impairment</b>					
SPS pre <sup>1</sup>	56.4 (10.4)	30.4 (16.8)	t = 3.4	40	.002**
SPS post	29.4 (19.7)	16.5 (13.8)	t = 1.9	45	.067
SIAS pre <sup>1</sup>	58.6 (13.1)	36.5 (15.7)	t = 3.0	40	.005**
SIAS post	36.6 (17.9)	21.9 (13.8)	t = 2.2	45	.034*
DIPS	6.4 (1.1)	5.9 (1.1)	t = 1.3	73	.214
Impairment	3.5 (0.8)	3.3 (0.8)	t = 0.8	64	.441
SCL-GSI pre	1.1 (0.5)	0.9 (0.6)	t = 1.5	88	.146
SCL-GSI post	0.5 (0.4)	0.5 (0.5)	t = -0.6	87	.951
No. Physical symptoms	18.1 (9.6)	16.9 (8.0)	t = 0.5	78	.655
BAI pre	20.3 (7.5)	19.8 (11.8)	t = 0.2	83	.875
BAI post	8.4 (4.5)	11.8 (10.4)	t = -1.9	37.7	.060
BSQ pre	2.1 (0.5)	2.2 (0.7)	t = -0.6	83	.577
BSQ post	1.7 (0.5)	1.6 (0.6)	t = 0.3	84	.735
<b>Subtypes</b>					
Situations	8.4 (2.2)	6.3 (3.0)	t = 2.2	79	.030*
Anxiety	26.4 (6.1)	20.5 (8.8)	t = 2.1	79	.037*
<b>Comorbidity</b>					
Diagnoses	0.6 (0.8)	0.51 (0.7)	t = 0.2	88	.831
BDI pre	18.4 (12.8)	13.6 (9.6)	t = 1.5	85	.129
BDI post	6.6 (6.9)	6.7 (7.1)	t = 0.0	14.8	.969
HZI-G pre	3.5 (2.8)	2.6 (2.1)	t = 1.3	75	.200
HZI-G post	1.8 (2.3)	1.4 (1.5)	t = 0.6	74	.548
HZI-H pre	2.9 (1.3)	3.2 (1.9)	t = -0.4	75	.716
HZI-H post	2.5 (1.7)	2.7 (1.8)	t = -0.4	73	.710

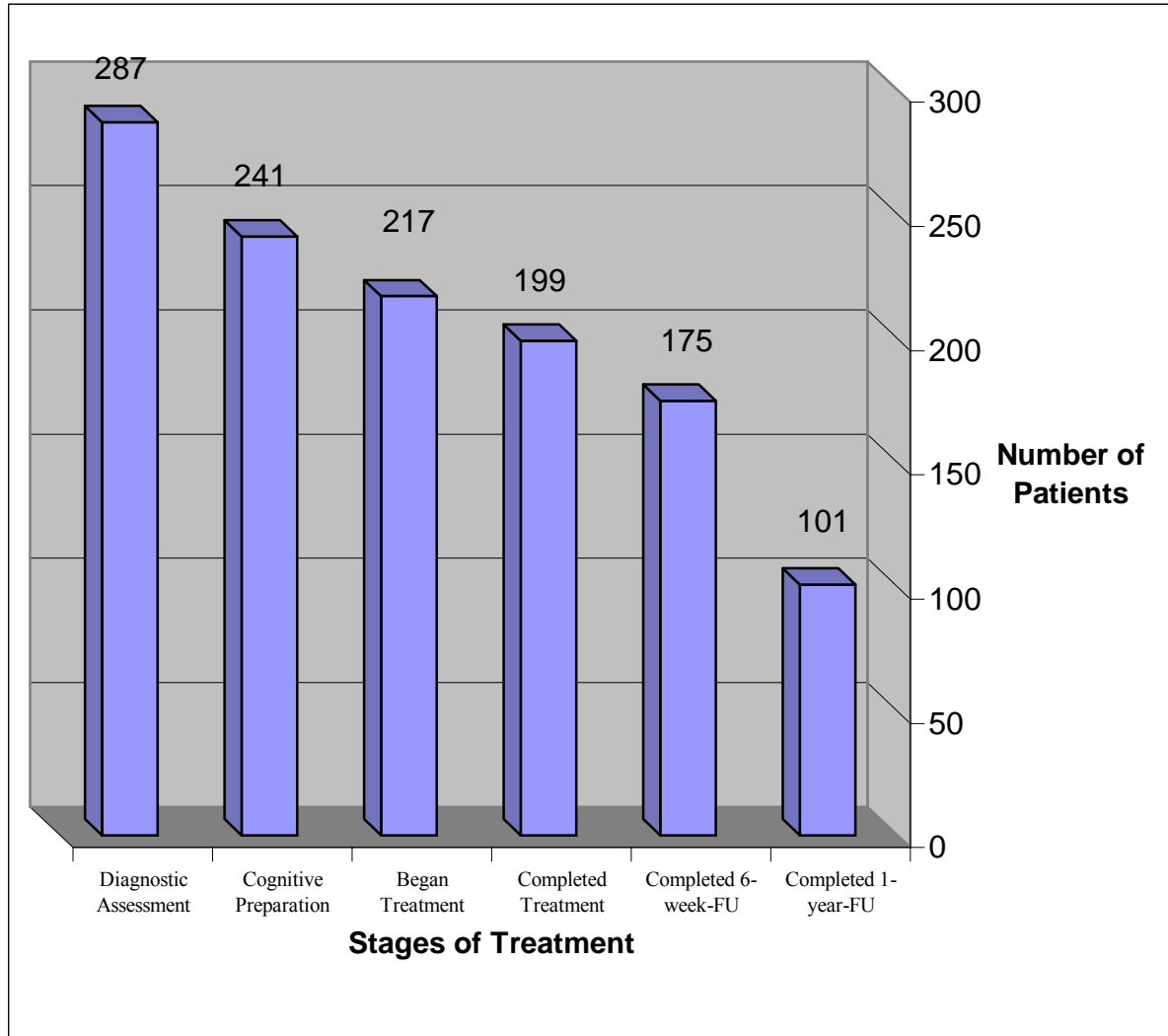
ACQ pre	1.9 (0.4)	1.9 (0.5)	t = 0.4	86	.710
ACQ post	1.5 (0.3)	1.5 (0.5)	t = 0.1	85	.935
MI-A pre	1.9 (0.6)	1.8 (0.7)	t = 0.4	76	.690
MI-A post	1.3 (0.5)	1.3 (3.6)	t = 0.0	79	.998
WI pre	2.4 (3.0)	3.1 (2.9)	t = -0.8	77	.405
WI post	2.3 (2.9)	2.0 (2.5)	t = 0.3	77	.738
Health related variables					
FLZ-GG pre	21.0 (17.0)	32.1 (37.4)	t = -0.6	37	.565
FLZ-GG post	77.5 (30.7)	59.2 (41.2)	t = 0.9	42	.395
Chronic Disease	0%	15%	Chi2 = 0.5	1	.470
Benzodiazepine	8.3%	15.6%	Chi2 = 0.4	1	.508
MALT pre	3.5 (2.6)	2.6 (3.0)	t = 0.8	76	.424
MALT post	1.3 (1.6)	2.1 (3.0)	t = -0.8	76	.440
Therapist Variables					
Experience	2.1 (1.0)	2.1 (1.0)	t = 0.1	85	.922
Male therapists	58%	36%	Chi2 = 2.3	1	.132
No. of sessions	30.7 (12.6)	35.4 (13.6)	t = -0.9	67	.355

\* =  $p \leq .05$ , \*\* =  $p \leq .01$  for significant differences in *t*-test or Chi Square Test; 1 = SPS = Social Phobia Scale; SIAS = Social Interaction Anxiety Scale. <sup>1</sup>Calculations for SPS and SIAS were based on smaller samples: for pre:  $n = 5$  deteriorated and  $n = 37$  stable, for post:  $n = 5$  and  $n = 42$  respectively; DIPS = Diagnostic Interview for Psychological Disorders; SCL-GSI = Symptom Checklist-90-Revised, Global Severity Index; BAI = Beck Anxiety Inventory; BSQ = Body Sensation Questionnaire; BDI = Beck Depression Inventory; HZI-G = Hamburg Obsessive Compulsive Inventory – Ruminations; HZI-H = Hamburg Obsessive Compulsive Inventory – Obsessive Behaviour; ACQ = Agoraphobic Cognition Questionnaire; MI-A = Mobility Inventory, Alone; WI = Whiteley Index; FLZ-GG = Questions on Life Satisfaction, Satisfaction with Health.

<sup>2</sup>Calculations for FLZ-GG were based on smaller samples: for pre:  $n = 4$  deteriorated and  $n = 35$  stable, for post:  $n = 4$  and  $n = 40$  respectively; MALT = Munich Alcoholism Test.

Figure 5.1.

*Number of Patients at the Different Stages of Assessment and Treatment*



## 6. Summary

### 6.1. Summary

In spite of the success of cognitive behavioural therapy for social phobia found in research, it remains unclear whether interventions will remain successful in the routine of clinical practice, where patients and treatment conditions might differ from those in research samples. Also, response rates make clear that not all patients benefit from the investigated treatment approaches. Almost half of the patients either refuse to undergo treatment after it has been offered, drop out during treatment or do not profit from completing it. In order to adapt treatment conditions better to individual needs, knowledge about variables predicting treatment success or failure is necessary. Studies investigating such predictors have so far yielded some contradictory results, have neglected prediction of refusal and relapse after treatment and have been carried out in typical research conditions, with samples not necessarily representative of clinical practice.

As a consequence, the studies address three basic questions: (1) Do typical research conditions have an effect on the effect sizes achieved? (2) Can the results found in randomised controlled trials be generalized to clinical practice? (3) Which variables can predict treatment attrition and response in clinical practice?

Several approaches were taken in order to answer these questions. First, thirty studies testing treatment effects for social phobia were re-examined by categorizing them according to the quality and amount of applied sample restriction and laboratory study characteristics and comparing their mean effect sizes. Second, 217 unselected patients with a primary diagnosis of social phobia according to DSM-III-R who began treatment in one of four outpatient clinics of the Christoph-Dornier Foundation of Clinical Psychology in Germany (CDS) were assessed before and six weeks after treatment, using an extensive assessment battery. Treatment outcome as well as clinical significance were calculated. Both the sample and the treatment outcome were compared to samples and outcome in the 30 efficacy studies and to outcome reported in meta-analyses. Thirdly, it was tested whether a restriction of the sample according to typical exclusion criteria would result in a larger effect size. Finally, the sample was completed by another 70 social phobic patients who were seeking treatment in the CDS but discontinued before treatment started. The 287 patients were then classified as refusers after diagnostic assessment (16%), refusers after cognitive preparation (8%), dropouts (6%),

and completers (69%). Outcome was assessed by calculating relative change via residual gain scores and by patient improvement ratings six weeks and one year after the end of treatment. Patients who completed the one-year follow-up ( $n = 101$ ) were categorized as stable (87%) or deteriorated (13%). Demographic and disorder-related as well as therapist and treatment variables were analysed as predictors for each classification.

The results of the analysis of outcome studies indicate that even the accumulation of sample restriction, such as excluding patients with comorbid disorders or outside a certain age-range does not have any predictive value for treatment effect. However, there was a significant tendency for studies applying several “laboratory treatment conditions”, such as recruiting patients by adverts, applying treatment in university settings, using specifically trained therapists, and following a treatment manual to achieve higher effect sizes.

The sample of patients in the study in clinical practice did not differ considerably from the samples in the comparison studies. The results six weeks after the end of therapy showed significant reductions in social phobic fears and avoidance as well as in general anxiety and symptoms of depression. The effect sizes are comparable with the average effect-sizes reported by meta-analytic studies of controlled efficacy research using selected patients. Restricting the sample according to the selection criteria often applied in research settings did not result in higher effect sizes. Fifty-six percent of the sample changed significantly with regard to social phobic symptoms.

The analysis of response in the sample of 287 patients seeking treatment for social phobia revealed a much lower response rate: only 43% of the patients originally seeking treatment completed and benefited from it in the end. The only significant predictor for treatment attrition was comorbidity. Treatment gain was best predicted by satisfaction with health (FLZ-GG). Also, patients characterized by more generalized social phobia improved less by 1-year-follow-up. Pretreatment depression had no effect on change as assessed by the self report measures, but more depressed patients reported having improved less. Finally, patients who were more severely impaired at pretreatment (as assessed by the SPS) found it harder to maintain treatment gain.

Taken together, it can be concluded that sample selection does not seem to enhance the effects of treatment and that individual cognitive behaviour therapy for social phobia can be transported from research settings to the field of mental health. However, although similar success rates can be achieved in clinical practice, practitioners are well advised to maintain supervision and keep up regular training. Finally, there is hope to further improve the



effectiveness of treatment by giving more attention to severely impaired patients or patients with comorbid disorders, who are more prone to dropout or relapse after treatment.

## **6.2. Zusammenfassung**

Trotz der durch eine Vielzahl von Forschungsarbeiten bestätigten Erfolge von kognitiver Verhaltenstherapie für Soziale Phobie bleibt fraglich, ob die untersuchten Interventionen auch im klinischen Alltag, in dem sich Patienten und Behandlungsbedingungen möglicherweise von denen in der Forschung unterscheiden, erfolgreich sind. Die bisherigen Befunde verdeutlichen zudem, dass bei Weitem nicht alle Patienten von den Behandlungsangeboten profitieren. Fast die Hälfte derer, die Behandlung aufsuchen, treten entweder vor Beginn der Behandlung zurück oder erreichen keine nennenswerte Verbesserung. Um Behandlungsangebote besser an die individuellen Bedürfnisse anzupassen, ist Wissen über Prädiktoren zur Vorhersage von Therapieerfolg unabdingbar. Trotz einer Reihe von Studien, die Therapieprädiktoren bei der Behandlung von Sozialer Phobie untersuchten, gibt es bisher nur wenige eindeutige Ergebnisse. Außerdem ist zu bemängeln, dass die Vorhersage von Rücktritten und Rückfällen vernachlässigt wurde, und dass die Studien unter kontrollierten Forschungsbedingungen stattfanden, in denen die Bandbreite potentieller Prädiktoren möglicherweise eingeschränkt ist.

Aus diesen Überlegungen leiten sich drei wesentliche Fragestellungen ab: (1) Haben typische Forschungsbedingungen und selektierte Stichproben Einfluss auf die Effektgröße? (2) Ist es möglich, die Ergebnisse aus randomisierten und kontrollierten Studien auf die klinische Praxis zu übertragen? (3) Durch welche Variablen können Rücktritte, Dropout und Behandlungserfolg in der klinischen Praxis vorhergesagt werden?

Verschiedene Herangehensweisen dienen der Beantwortung der Fragestellungen. Zunächst wurden 30 Studien, die die Wirksamkeit kognitiver Verhaltenstherapie für Soziale Phobie untersuchten, re-analysiert, indem sie anhand der Qualität und Quantität von Stichprobenselektierung und Laborcharakteristika eingestuft und ihre mittleren Effekte verglichen wurden. Weiterhin wurde eine unselektierte Gruppe von 217 Patienten mit der Primärdiagnose Soziale Phobie nach DSM-III-R, die in einem von vier Instituten der Christoph-Dornier Stiftung für Klinische Psychologie (CDS) eine Behandlung aufsuchten, vor und sechs Wochen nach der Behandlung einer ausführlichen Diagnostik anhand einer klinischen Fragebogenbatterie unterzogen. Der Behandlungserfolg und die klinische Signifikanz wurden errechnet. Die Stichprobe und die Ergebnisse wurden mit Stichproben

und Ergebnissen der 30 Wirksamkeitsstudien sowie mit den in Metaanalysen berichteten durchschnittlichen Effekten verglichen. Zusätzlich wurde untersucht, ob eine Selektion der Stichproben anhand forschungsüblicher Kriterien in einer größeren Effektstärke resultieren würde. Schließlich wurde die Stichprobe um weitere 70 Patienten mit Sozialer Phobie ergänzt, die zwar Behandlung aufsuchten, aber vor Beginn der Behandlung zurücktraten. Die Gesamtstichprobe von 287 Patienten wurde in 4 Gruppen unterteilt: Rücktritte nach der Diagnostik (16%), Rücktritte nach Kognitiver Vorbereitung (8%), Abbrüche während der Therapie (6%) und Patienten, die die Therapie abschlossen (69%). Für die behandelten Patienten wurde der Therapieerfolg als das relative Ausmaß der durch die Behandlung erzielten Veränderung („residual gain scores“) sowie durch die subjektive Therapieerfolgseinschätzung erfasst. Patienten, die an der 1-Jahres Katamnese teilnahmen ( $n = 101$ ) wurden als stabil (87%) oder verschlechtert (13%) eingestuft. Demographische und störungsbezogene, sowie Therapeuten- und Behandlungsvariablen wurden als Prädiktoren für jede Klassifikation analysiert.

Die Ergebnisse der Analyse der Therapiestudien deuten darauf hin, dass sogar eine Akkumulation von angewendeten Selektionskriterien, wie z.B. der Ausschluss komorbider Depression oder von Patienten außerhalb einer bestimmten Altersspanne keinen Einfluss auf die Größe der Effekte hat. Andererseits fand sich ein Zusammenhang zwischen der Menge zutreffender „Laborcharakteristika“, wie z.B. Werbung der Patienten über Anzeigen, Durchführung der Behandlung in universitärem Setting, speziell trainierte Therapeuten oder genaues Befolgen eines Therapiemanuals, und der Größe des Effektes. Studien, auf die mehrere Laborkriterien zutrafen, erzielten etwas höhere Effekte.

Es zeigten sich keine wesentlichen Unterschiede zwischen unserer Stichprobe in der klinischen Praxis und Stichproben in Vergleichsstudien. Die Ergebnisse sechs Wochen nach Beendigung der Therapie zeigten eine deutliche Verringerung sozialphobischer Ängste und Vermeidungsverhaltens, wie auch allgemeiner Ängstlichkeit und Depressivität. Die erreichten Effekte entsprechen den mittleren Effektstärken aus Metaanalysen, die überwiegend kontrollierte Studien mit selektierten Patientengruppen auswerteten. Eine Einschränkung unserer Behandlungsgruppe anhand typischer Selektionskriterien führte nicht zu höheren Effektstärken. Eine klinisch relevante Verbesserung sozialphobischer Symptome wurde von 56% der Patientenstichprobe erreicht. Die Analyse der Gesamtstichprobe von 287 Patienten, die ursprünglich Behandlung aufsuchten, ergab eine deutlich geringere Erfolgsrate: Lediglich 43% der Patienten vollendeten die Behandlung und profitierten von dieser.

Im Hinblick auf Prädiktoren für Therapieabbrüche erwies sich eine höhere Komorbidität als positiver Prädiktor. Die durch die Behandlung erzielte Veränderung konnte am besten durch die subjektive Zufriedenheit mit gesundheitlichen Lebensaspekten (FLZ-GG) vorhergesagt werden. Patienten, die durch eine generalisiertere Sozialphobie gekennzeichnet waren, zeigten weniger Veränderung zur 1-Jahres Katamnese. Komorbide Depression zu Beginn der Behandlung hatte zwar keinen Einfluss auf die Veränderung durch die Behandlung, aber depressivere Patienten hatten den subjektiven Eindruck, weniger profitiert zu haben als nicht depressive. Schließlich gelang es Patienten, die bereits vor der Therapie einen höheren Schweregrad der Sozialen Phobie (in der SPS) aufwiesen, schlechter, den erreichten Behandlungserfolg aufrechtzuerhalten.

Zusammenfassend kann gefolgert werden, dass Stichprobenselektierung die Behandlungseffekte nicht begünstigt, und dass individuelle kognitive Verhaltenstherapie für Soziale Phobie von der Forschung in die klinische Praxis übertragen werden kann. Obwohl vergleichbare Erfolge erreicht werden können, sind Praktiker gut beraten, eine ausführliche Supervision in Anspruch zu nehmen und regelmäßige Fortbildungen aufzusuchen. Schließlich bleibt zu hoffen, dass die Effektivität der Behandlung weiter verbessert werden kann, indem zusätzliche therapeutische Interventionen stärkere Berücksichtigung finden, die der besonderen Belastung von komorbid oder in höherem Ausmaß gestörten Patienten gerecht werden.

## 7. References

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## Appendix A. Categorization of Studies

*Table A.1. Categorization of Studies According to Restriction and Laboratory Characteristics*

Study	<i>N</i>	ES	a	b	c	d	e	f	g	k	l	m	n	o	p
1	19	1.76	1	1	1	0	0	0	0	1	1	1	1	1	1
2	15	0.35	0	0	0	1	1	1	*	0	0	1	0	1	1
3	7	0.5	1	1	1	0	1	0	0	1	1	0	*	1	0
4	25	0.63	*	*	*	*	0	0	*	0	0	0	0	1	0
5	7	4.75	*	*	*	*	0	0	0	0	0	0	0	1	0
6	17	1.18	1	1	0	0	1	0	1	0	1	1	1	1	1
7	29	0.73	1	1	0	0	0	0	*	0	1	0	1	1	1
8	7	1.25	1	1	0	0	1	0	1	0	0	1	0	1	0
9	20	0.98	1	1	1	0	0	0	1	0	0	0	1	1	1
10	28	0.30	1	1	0	0	0	1	1	0	1	1	*	1	0
11a	8	1.10	0	0	0	0	1	0	*	1	1	1	1	1	1
11b	7	0.75	0	0	0	1	1	0	*	0	1	1	1	1	1
12	20	0.86	1	1	1	1	1	0	1	0	0	1	1	1	1
13a	12	1.39	1	0	0	0	0	0	1	1	1	1	1	1	1
13b	8	0.86	1	0	0	1	0	0	1	0	1	1	1	1	1
14a	5	1.04	1	1	1	0	0	0	*	1	0	0	0	1	0
14b	5	0.84	1	1	1	0	0	0	*	1	0	0	0	1	0
15	36	1.33	*	*	*	*	0	0	0	0	1	1	1	1	0
16	175	0.82	0	0	0	0	0	0	0	0	0	0	0	0	0
17	44	0.65	1	1	1	1	0	0	*	0	1	0	1	1	1
18	20	1.10	1	1	1	1	1	0	*	0	1	0	1	1	1

19	30	0.82	1	0	0	0	1	0	1	0	1	1	1	1	0
20	16	0.94	1	1	0	0	1	0	*	0	1	1	1	1	1
21	15	0.60	1	0	0	0	0	1	*	0	1	0	0	1	0
22	15	1.85	*	*	*	*	1	*	1	0	1	1	0	1	0
23	20	0.478	1	0	0	0	0	1	*	1	0	1	1	1	1
24	59	1.33	1	0	0	0	1	1	*	1	1	1	1	1	1
25	40	0.86	1	0	0	0	0	0	0	0	1	1	1	1	0
26	11	1.25	1	1	0	0	0	0	*	1	0	0	0	1	0
27	44	1.38	1	0	0	0	0	0	1	1	1	0	1	1	1
28	12	0.87	1	1	1	0	0	0	1	0	0	0	*	1	0
29	21	0.94	1	1	1	0	0	0	*	0	0	0	1	1	0
30	42	0.73	1	1	1	0	0	1	0	0	0	0	0	0	0

Study = included study or study sample (see references). Separate samples within one study are marked with a and b.; *N* = Number of participants of the sample; ES = effect size; (a) exclusion of comorbid psychosis; substance misuse or bipolar disorder; (b) exclusion of comorbid depression; (c) exclusion of comorbid axis I disorders; (d) exclusion of comorbid avoidant personality disorder; (e) exclusion of low severity; (f) exclusion of prior treatment; (g) majority of sample are students; (k) qualitative sample restrictions; (l) patients recruited by adverts; (m) carried out in a university setting; (n) using specially trained therapists; (o) following a treatment manual; (p) monitoring treatment manual

1 = applies; 0 = does not apply; \* = missing value

## Appendix B. Timing of Assessment

Table B.1. Timing of Assessments

	Pretreatment Assessment			Posttreatment Assessment			1-year-Follow-Up (F1)		
	Before session	first	During diagnostic procedure	6	– 8	weeks after treatment	1	year after treatment	after
<b>Application</b>	X								
<b>Medical Check-up</b>			X						
<b>Socio-demographic Questionnaire</b>			X						
<b>Diagnostic Interview (DIPS)</b>			X					X	
<b>SPS</b>			X		X			X	
<b>SIAS</b>			X		X			X	
<b>SCL-90-R</b>			X		X			X	
<b>BDI</b>			X		X			X	
<b>BAI</b>			X		X			X	
<b>BSQ</b>			X		X			X	
<b>ACQ</b>			X		X			X	
<b>MI</b>			X		X			X	
<b>HZI</b>			X		X			X	
<b>WI</b>			X		X			X	
<b>FLZ</b>			X		X			X	
<b>MALT-S</b>			X		X			X	
<b>FU-Questionnaire</b>								X	
<b>Rating of Global Improvement</b>					X			X	

## Appendix C. Description of the Sample (*N* = 287)

### C.1. Sociodemographic Variables

<b>Age</b>	≤ 20 years: 6%	<i>N</i> = 284
	21-30 years: 40%	
	31-40 years: 32%	
	41-50 years: 16%	
	≥ 50 years: 7%	
<b>Gender</b>	Male: 56%	<i>N</i> = 288
	Female: 44 %	
<b>Marital status</b>	Married: 33%	<i>N</i> = 280
	Living with a partner: 13%	
	Partnership (non-committal): 10%	
	Single: 44%	
<b>Educational level</b>	No school degree: 3%	<i>N</i> = 284
	Lower school [Hauptschule]: 11%	
	Secondary school [Realschule]: 21%	
	A-levels [Abitur]: 32%	
	University degree: 33%	

<b>Occupational status</b>	Employed: 46%	<i>N</i> = 274
	Self-employed: 14%	
	Unemployed: 7%	
	Student in Training: 27%	
	Housewife: 3%	
	In Retirement: 3%	

## C.2. Disorder Related Variables

<b>Age at onset of social phobia</b>	<i>M</i> = 19.9 ( <i>SD</i> = 9.7, range 4 - 56)	<i>N</i> = 267
<b>Duration of social phobia</b>	<i>M</i> = 13.8 ( <i>SD</i> = 11.7, range 0-68)	<i>N</i> = 267
<b>Feeling of general impairment</b>	Extreme impairment: 56.1%	<i>N</i> = 212
	Strong impairment: 34.9%	
	Medium impairment: 8.5%	
	Low impairment: 0.5%	
<b>Areas of extreme impairment</b>	Family life: 34.4%	<i>N</i> = 244
	Partnership: 35.7%	<i>N</i> = 213
	Work: 89.6%	<i>N</i> = 240



<b>Social situations causing strong or extreme fear</b>	Speaking in front of a group: 82%	<i>N</i> = 256
	Meetings: 62.8%	<i>N</i> = 258
	Parties: 52%	<i>N</i> = 258
	Speaking with authorities: 51%	<i>N</i> = 257
	Eating in public: 46%	<i>N</i> = 258
	Dates/Rendez-Vous: 43%	<i>N</i> = 255
	Requesting a behavioural change: 39%	<i>N</i> = 255
	Starting a conversation: 38%	<i>N</i> = 257
	Repudiating unduly claims: 32%	<i>N</i> = 254
	Writing in front of others: 31%	<i>N</i> = 256
	Keeping up a conversation: 29%	<i>N</i> = 252
	Using public toilets: 10%	<i>N</i> = 257
<b>Physical symptoms causing strong or extreme impairment</b>	Stronger heartbeat: 66%	<i>N</i> = 251
	Transpiration: 62%	<i>N</i> = 252
	Trembling: 55%	<i>N</i> = 252
	Hot flushes: 41%	<i>N</i> = 251
	Derealisation: 26%	<i>N</i> = 252
	Dizziness: 24%	<i>N</i> = 251
	Shortness of breath: 22%	<i>N</i> = 251
	Nausea: 20%	<i>N</i> = 251
	Chestpain: 17%	<i>N</i> = 252
	Feelings of suffocation: 12%	<i>N</i> = 251
Numbness: 6 %	<i>N</i> = 253	

### C.3. Comorbid Diagnoses According to DSM-III-R

Any Comorbid Diagnosis		Agoraphobia Without History	
Major Depressive Disorder	22.2%	of Panic Disorder	1.4%
Specific Phobia	7.4%	Obsessive-Compulsive	
Panic Disorder With Agoraphobia	7.3%	Personality Disorder	1.2%
Dysthymic Disorder	5.3%	Posttraumatic Stress Disorder	1.1%
Generalized Anxiety Disorder	3.5%	Primary Insomnia	0.8%
Avoidant Personality Disorder	3.3%	Dependent Personality	
Panic Disorder Without		Disorder	0.7%
Agoraphobia	2.8%	Obsessive Compulsive	
Hypochondriasis	2.5%	Disorder	0.4%
Bulimia Nervosa	2.5%	Cyclothymic Disorder	0.3%
Somatization Disorder	1.9%	Separation Anxiety	
Alcohol Abuse	1.5%	Disorder	0.3%

## C.4. Previous Treatment Attempts

<b>Psychological Treatment</b>	69%	<i>N</i> = 276
<b>Hospitalisation</b>	24%	<i>N</i> = 276
<b>Medical Treatment</b>	Any medicine: 54%	<i>N</i> = 276
	Benzodiazepines: 16%	<i>N</i> = 276
	Antidepressants: 16%	<i>N</i> = 276
	Neuroleptics: 5%	<i>N</i> = 276
	$\beta$ -blocker: 8%	<i>N</i> = 276
	Other: 26%	<i>N</i> = 276
<b>Other Treatment</b>	6%	<i>N</i> = 273
<b>No Treatment</b>	20%	<i>N</i> = 272

## **Appendix D. Description of Treatment**

### **D.1. Formal Treatment Conditions**

During the one or two weeks of intensive treatment patients are normally accommodated in a hotel or a guesthouse situated in close proximity to the Christoph-Dornier-Foundation. At the time of the therapy described in the studies (1990-1999) the cost of treatment was paid for in most cases by the health insurance as "Kostenerstattungsverfahren" [reimbursement of expenses]. This means that invoices for treatment sessions are directed to the patient, who has to apply for reimbursement with his or her health insurance company. The insurance company is free to decide whether or not they are prepared to cover the expenses for treatment. This decision process mostly took place after diagnostic assessment, and the rejection of the application to cover the costs was the most frequent reason for treatment attrition at this stage of treatment. Additional treatment-expenses, such as accommodation, tickets, etc. were not covered by the health insurance.

### **D.2. First Session**

After receiving the application questionnaire, the therapist contacts the patient and arranges a date for a first session. The first session is usually conducted in the rooms of the institute of the Christoph-Dornier-Foundation, but therapists are willing to conduct it in the house of the patient if problems are so disabling they prevent a patient from coming.

The most important aspects of the first session have been described by Frank and Frank (2000). The first contact offers the patient an opportunity for a first impression of the therapist and the institute, a first description of the problem for which he or she is seeking treatment and clarification of organisational questions.

The therapist tries to gain all necessary information needed for the planning of the diagnostic procedure as to clarify whether he will be able to offer the patient adequate treatment or whether he must refer to another institution. Additionally, the therapist informs about the disorder, offers explanations for symptoms, and gives information on the further procedure of treatment and other organisational questions. At the same time he concentrates on building up a good emotional relationship by assuring that he understands the patient's suffering, as well as taking the problem seriously and refraining from evaluating or accusing.

### **D.3. Medical Check-up and Diagnostic Assessment**

A medical check-up is carried out by general practitioners or specialists in cooperation, who are well informed about symptoms of social phobia. The doctors complete a medical report, which has been specifically developed for patients with an anxiety disorder. The medical check-up is particularly important in the context of exposure since this can be physiologically stressful and may be contraindicative (e.g. for patients with coronary heart disease). Further, a detailed attempt to clarify the source of specific, particularly impairing symptoms (e.g. extreme trembling) can be of importance with regard to cognitive restructuring interventions as well as for setting realistic goals.

Diagnostic assessment takes place in approximately four to six treatment sessions, usually completed in one day. It consists of several components. One basic component is the diagnostic interview [Diagnostisches Interview für Psychische Störungen] (DIPS, Margraf, Schneider, & Ehlers, 1991). Apart from gaining a reliable diagnosis the therapist aims at receiving a clear picture of all anxiety provoking situations as well as the amount of fear they provoke. He will also try to gain as much information about avoidance behaviour and safety behaviours, needed for an adequate planning of treatment. The therapist also tries to gather the information required for the model of explanation, the factors that engender and maintain the problem in the past or at present. Finally the patient is asked to complete a series of questionnaires which are depicted in Appendix E.

### **D.4. Cognitive Preparation**

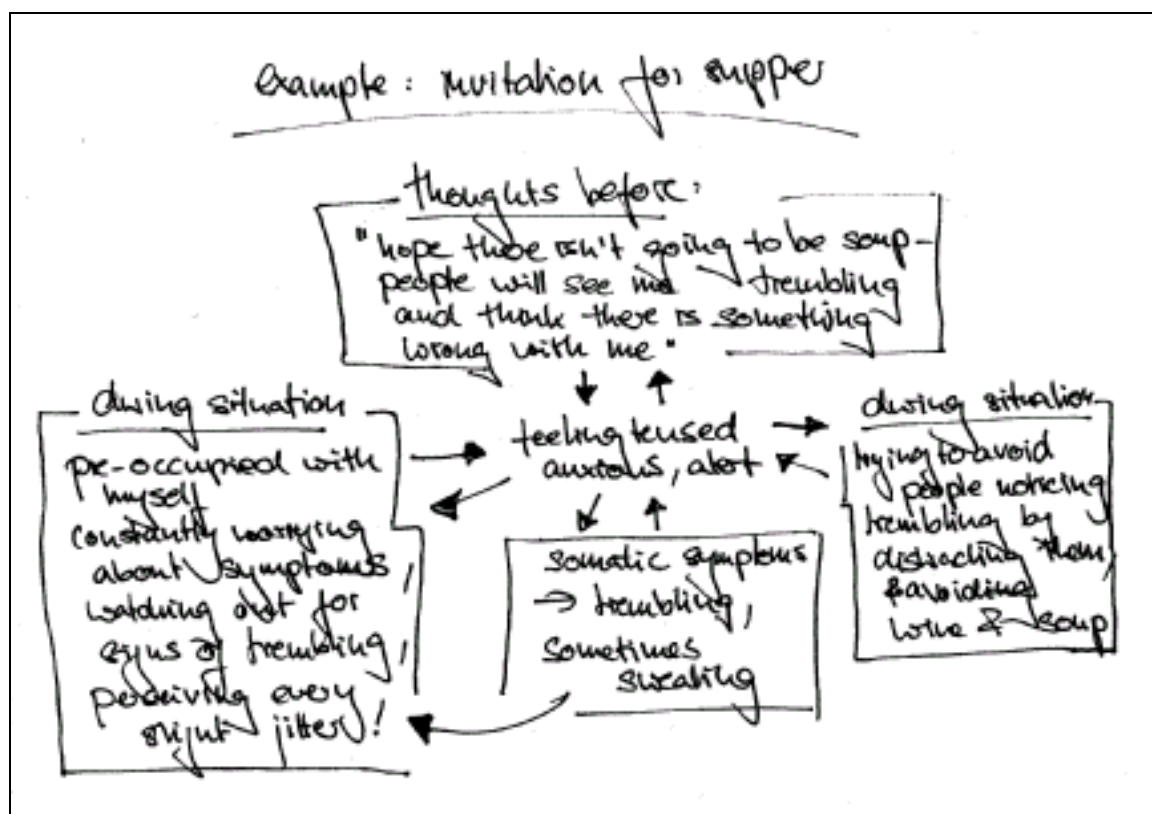
Cognitive preparation for therapy takes place about one week later and is necessary to enhance the patient's motivation for treatment. The concept of cognitive preparation is based on the explanations given by Bartling, Fiegenbaum, and Krause (1980) for the treatment of panic disorder and agoraphobia, but has been adapted to the treatment of social phobia. The length of the cognitive preparation session is variable and depends on the individual problem of a patient, his or her expectations concerning therapy, the motivation for change and the relationship between patient and therapist. The cognitive preparation has four basic goals.

#### **D.4.1. Explanation of cause and maintenance of social phobic behaviour and experiences**

According to intellectual abilities, previous experience and own attempts of explaining the

problem, different cognitive-behavioural theories can be used. The phobic behaviour is portrayed as normal, learnt behaviour that has developed because of inconvenient learning conditions. A basic aim is to relieve the patient from concerns about being different or something being „fundamentally wrong“ with him or her, as such assumptions lead to devaluations of the self. Instead it is underlined that avoidance and safety behaviour carry the main responsibility for maintenance and intensification of anxiety. The influence of further important factors, as far as they turned out to be of importance in the diagnostic assessment (perfectionism, self-focused attention, one-sided interpretations) is explained. The therapist develops an individualized model with the patient, for example following the model of Clark und Wells (1995), and sketches it for the patient on paper. An example for such a model can be seen in Figure D.1.

Figure D.1. Simplified Example of an Explanation Model used in Therapy



#### D.4.2. Deriving the treatment

The sketched model is used as a basis from which the treatment is derived stringently and the treatment procedure is explained in a transparent way. The necessity of a detailed analysis of dysfunctional cognitive schemes responsible for the specific interpretation in the situation as

well as the importance of exposure to the feared situations is derived in a way that that is plausible for the patient. The understanding on behalf of the patient is enhanced by using metaphors and encouraging patients to imagine what would happen if they do not avoid the feared situations, using so called “thought-experiments”. Furthermore, information on the duration and course of treatment is given. The therapist points out, that he will not get involved in discussions or distractions during exposure tasks, but will try to prevent avoidance-behaviour whenever possible. The patient is requested to refrain from all precautions that normally serve to reduce fear (sedatives, lucky charms, or not drinking coffee beforehand in order to avoid trembling).

#### **D.4.3. Emphasising the patient’s responsibility**

The personal responsibility of the patient is underlined by explicitly giving the patient about a week time to come to their own decision for or against participation in the therapy. The therapist makes absolutely no attempt to persuade the patient to participate. In this time purposely no further interventions take place in order to not disturb the decision process. However, the patient is offered the possibility of consultation if needed.

#### **D.4.4. Development of a trusting relationship**

The aim is to build up the relationship between patient and therapist in way that encourages the patient to trust the therapist and perceive him as competent. The therapist makes clear that he takes the patient’s fears seriously and understands how difficult and stressful it must be for the patient to have to confront him- or herself with the feared situations.

### **D.5. Therapy**

When the patient decides to participate, exposure and cognitive intervention begin (duration is variable and depends on the individual patient’s needs). The therapist is in close contact with the patient during the first days, during which it is not unusual for treatment to last for six to eight hours. Exposure to the feared situations plays a central role in the therapy as it serves several purposes, with varying importance in the course of treatment. First, it is used to experience a certain degree of habituation to the situation. Secondly, it helps to assess further anxiety-provoking and maintaining cognitions, safety-behaviour, selective attention as well as self-focused attention. Thirdly, confrontation with the feared situations offers the patient the possibility of testing negative beliefs concerning his or her behaviour or the behaviour of

others, by evaluating video-recordings of the exposure situation. If possible, an audience used for the exposure situation can also function as giving feedback in order to correct dysfunctional self-perception. Fourthly, for patients with deficits in social skills the situations can also be used for training.

Exposure always takes place with cognitive restructuring interventions, in which the analysis of fear-relevant cognitive concepts and schemes play a central role. Only after these concepts have been clearly defined the actual restructuring can take place. The basic strategy then consists of “system-immanent” dialoguing, which increases a patient’s motivation to drop and replace dysfunctional concepts. Thus, finally, after restructuring interventions have taken place, the exposure situations give the patient an opportunity to test out alternative concepts (e.g. “It is okay to make a mistake sometimes”), by changing his or her behaviour in the situation (e.g. allowing mistakes to happen or even making a mistake on purpose).

Generally, exposure situations are chosen depending on the patients’ individual fears and starting with those in the top half of an anxiety hierarchy. Examples for exposure situations are giving a short speech in front of an audience, eating soup in a restaurant, serving drinks, chatting with a member of the opposite sex, or keeping eye-contact with other passengers in public transport. The therapist aims at providing the patient with situations that are as natural as possible and contain the specific fear provoking elements.

Further elements of the therapy, that are used when it seems appropriate consist of behavioural experiments, such as experimenting with the effect of safety behaviours using video-feedback or conducting an opinion poll on a theme that is relevant to the patient (e.g. “What goes through people’s mind when someone blushes?”). Apart from being a basis for cognitive restructuring, these interventions also contain exposure elements.

Therapists are free to vary the amount of exposure and cognitive therapy as well as the length of the intervention according to the needs of the individual patient. They are also free to use additional specific interventions for the treatment of co-morbid disorders.

In order to gain a clearer and less abstract picture of the treatment a brief case description will be given. A 25-year old man called Max was one of our patients who was diagnosed with social phobia. Max’s main fear was that other people would see that his hands were shaky and he would be rejected because of this. One of his most feared items was having to serve drinks to his guests, especially while being observed by several people. Thus, one of the first



exposure interventions consisted of the therapist inviting an audience and preparing drinks to be served. The therapist made sure that coffee was served in fine china cups, which had to be held by the handle, as mugs would have made it easier to conceal jittering. Also, as Max had reported being particularly concerned about being rejected by men of his age, the therapist made sure that the audience consisted mainly of men in the range of 20 - 30 years of age. The exposure was extensively prepared with Max, noting expectations about the way he felt he was going to be perceived and defining criteria for success. Max feared that at least one person in the audience would be laughing, or that there would always be an awkward silence while he was serving. He defined a successful situation as one in which he did not actually spill any coffee and managed to stay until everybody had been served. For Max it was particularly important to hear from the audience whether and how much they actually perceived him to be trembling and what they had been thinking, when they noticed this.

During the exposure situation a co-therapist videotaped the exercise and the therapist occasionally interrupted the performance to assess the amount of perceived anxiety, rated on a scale from 0 (no fear) to 10 (maximum fear). As fear remained high while serving drinks, the therapist instructed Max to serve another round of coffee. The situation was terminated when Max reported the fear to be at the level of about four. The audience was then asked to give the specific feedback defined before the exposure. The feedback was also videotaped because Max feared that people would not be honest enough to his face. Finally, the therapist discussed the exposure situation and the feedback with Max, using it as a natural segue into restructuring interventions in which Max was taught to identify and challenge specific negative thoughts and general cognitive errors (e.g. "Because I feel uncertain, I must be performing badly and trembling extremely.") and perfectionist thinking (e.g. "A less-than-perfect performance is a failed performance."). The video feedback was used as an objective feedback and also helped to detect safety behaviours. For example it could be seen that Max sometimes used both hands when offering the cup to someone.

## **D.6. Self-Control Phase**

In the days after the intensive treatment phase the patient is encouraged to continue exposing himself to the identified situations for several hours each day. During this period further contacts with the therapist (e.g. in form of a telephone contact at the end of the day or a short treatment session) are scheduled. The patient plans the self-control phase in close cooperation

with the therapist. Together, they clearly define which situations are to be practiced, how long the patient should remain in the situations and when and how often the patient is to expose him- or herself to feared situations. At the end of the self-control phase patient and therapist analyse the experiences the patient made and derive a supporting program for the next weeks, during which the exposure tasks are integrated more and more into the patient's every-day life and do not require so much additional time.

## **Appendix E. Specific Assessment Measures and Formulas**

**(the diagnostic interview and all other questionnaires are not added because for reasons of copy-right)**

**E.1. Application Questionnaire**

**E.2. Socio-demographic Questionnaire**

**E.3. Medical Report**

PAT:
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## Eingangsfragebogen

Stand: 1.7.2000

Der folgende Fragebogen enthält eine Reihe von Fragen zu Ihrem Therapiewunsch. Diese Informationen helfen uns, das Erstgespräch sowie die nachfolgende diagnostische Untersuchung entsprechend Ihrer individuellen Situation zu planen und durchzuführen.

Bitte beantworten Sie **jede** Frage bzw. kreuzen Sie die jeweils zutreffende der vorgegebenen Antwortmöglichkeiten an. Falls Sie möchten, können Sie weitere Bemerkungen am Rand hinzufügen.

Sämtliche Angaben werden selbstverständlich streng vertraulich behandelt. Um die Lesbarkeit Ihrer Antworten sicherzustellen, schreiben Sie bitte in Druckbuchstaben. Bitte senden Sie den Fragebogen vollständig ausgefüllt und unterschrieben an unsere Anschrift zurück. Wir danken Ihnen für Ihre Mitarbeit.

Ich interessiere mich für eine Behandlung in der **Christoph-Dornier-Stiftung für Klinische Psychologie** und bitte Sie, mich für ein persönliches Erstgespräch vorzumerken.

Datum:

.....

Unterschrift:

.....

### **Institutswunsch**

Die Christoph-Dornier-Stiftung für Klinische Psychologie hat Institute in Berlin, Braunschweig, Dresden, Marburg und Münster. Bitte geben Sie nachfolgend Ihren Institutswunsch an:

Berlin

Braunschweig

Dresden

Marburg

Münster

## Teil 1: Angaben zur Person

**Bitte tragen Sie die folgenden Informationen ein:**

Heutiges Datum: \_\_\_\_\_

Name, Vorname: \_\_\_\_\_

Anschrift: \_\_\_\_\_

Telefon                      privat: \_\_\_\_\_                      dienstlich: \_\_\_\_\_

Wann sind Sie am \_\_\_\_\_

besten telefonisch

erreichbar? \_\_\_\_\_

Fax                              privat: \_\_\_\_\_                              dienstlich: \_\_\_\_\_

Planen Sie, in                      o nein                      o ja

nächster Zeit

umzuziehen?

Wenn ja: wann? \_\_\_\_\_

neue Anschrift: \_\_\_\_\_



erlernter Beruf: \_\_\_\_\_

derzeitig ausgeübter \_\_\_\_\_

Beruf:

Arbeitgeber: \_\_\_\_\_

derzeitiger beruflicher Status:

<input type="checkbox"/> vollzeit	<input type="checkbox"/> Hausfrau /-mann
<input type="checkbox"/> teilzeit	<input type="checkbox"/> in Altersrente / Pension
<input type="checkbox"/> arbeitslos	<input type="checkbox"/> erwerbsunfähig (EU-Rente) auf Dauer
<input type="checkbox"/> in Ausbildung	<input type="checkbox"/> erwerbsunfähig (EU-Rente) auf Zeit
<input type="checkbox"/> sonstiges: _____	

Sind Sie zur Zeit krankgeschrieben / dienstunfähig?

nein  ja

Krankenkasse/-versicherung:

bitte nachfolgend ankreuzen:	bitte ggf. zusätzlich angeben:
<input type="checkbox"/> AOK Allgemeine Ortskrankenkasse.....Ort: .....	
<input type="checkbox"/> BKK Betriebskrankenkasse.....Betrieb: .....	
<input type="checkbox"/> IKK Innungskrankenkasse.....Innung: .....	
<input type="checkbox"/> BEK Barmer Ersatzkasse.....	
<input type="checkbox"/> DAK Dt. Angestellten-Krankenkasse.....	
<input type="checkbox"/> andere Ersatzkasse.....welche: .....	
<input type="checkbox"/> KKH Kaufm. Krankenkasse Halle.....	



- TK Techniker Krankenkasse.....
- Private Krankenversicherung.....bei: .....
- Beihilfe.....bitte Zusatzv. angeben  
(s.u.\*)
- Post, Bahn, Polizei, Bundeswehr .....Behörde: .....
- Sozialamt.....welches: .....
- LVA Landesversicherungsanstalt.....Bundesland: .....
- BfA Bundesvers.anstalt f. Angest. ....
- Knappschaft.....
- Berufsgenossenschaft.....welche: .....
- sonstige.....
- nicht versichert.....

Name, Anschrift und Telefonnummer der zuständigen Geschäftsstelle bzw.  
Behörde: \_\_\_\_\_

\* Zusatzversicherung:  nein  ja

Falls ja: Name, Anschrift

und Telefonnummer \_\_\_\_\_

der zuständigen

Geschäftsstelle: \_\_\_\_\_

## Teil 2: Problembeschreibung und bisherige Behandlungen

2.1 Bitte geben Sie nachfolgend Ihr Problem an,  
wegen dem Sie eine Behandlung wünschen:

2.2 Seit wann etwa leiden Sie unter diesem  
Problem?

2.3 Waren Sie wegen diesem Problem schon in medizinischer oder psychologischer  
Behandlung? (Gemeint sind sowohl ambulante Behandlungen bei einem Arzt oder  
Psychologen als auch stationäre Behandlungen in einer Klinik.) o nein o ja

Falls ja, wo und wann waren Sie in  
Behandlung?

Ambulante Psychotherapien: wo? \_\_\_\_\_

wann? \_\_\_\_\_

wo? \_\_\_\_\_

wann? \_\_\_\_\_

wo? \_\_\_\_\_

wann? \_\_\_\_\_

Stationäre Psychotherapien:

wo? \_\_\_\_\_

wann? \_\_\_\_\_

wo? \_\_\_\_\_

wann? \_\_\_\_\_

wo? \_\_\_\_\_

wann? \_\_\_\_\_

Ambulante medizinische Behandlungen:

wo? \_\_\_\_\_

wann? \_\_\_\_\_

wo? \_\_\_\_\_

wann? \_\_\_\_\_

wo? \_\_\_\_\_

wann? \_\_\_\_\_

wo? \_\_\_\_\_

wann? \_\_\_\_\_

2.4 Wie stark fühlen Sie sich zur Zeit durch Ihr  
Problem belastet?

- sehr stark
- stark
- mittelmäßig
- wenig
- gar nicht

2.5 In welchen Lebensbereichen fühlen Sie sich  
durch Ihr Problem besonders beeinträchtigt?  
(Mehrfachangaben möglich)

- Partnerbeziehung
- Familiensituation
- Berufsausbildung/-ausübung
- Freizeitbereich

- Finanzielle Situation
- Allgemeiner Bewegungsspielraum
- Körperliche Gesundheit
- Kontakte zu anderen Menschen
- Sonstiges: \_\_\_\_\_

2.6 Wie und durch wen sind Sie auf die

Christoph-Dornier-Stiftung für Klinische

Psychologie aufmerksam geworden? \_\_\_\_\_

2.7 Sind Sie über die unter Punkt 2.1 genannten  
Probleme hinaus schon einmal wegen einem  
oder mehreren der folgenden Probleme  
behandelt worden?

- Depression
- Ängste
- Essprobleme
- andere psychische Störungen

(welcher Art):

- \_\_\_\_\_
- prämenstruelle Beschwerden
  - hormonale Beschwerden im Zusammenhang  
mit Geburt
  - andere hormonelle Beschwerden
  - Alkohol- und Drogenprobleme
  - Verdauungsstörungen
  - stressbezogene Beschwerden (z.B. Magen  
geschwür, Bluthochdruck): welcher Art:

---

o Herzprobleme (welcher Art):

---

- o nervöse Störungen
- o Schilddrüsenfunktionsstörungen
- o Glaukom (erhöhter Augeninnendruck)
- o Asthma
- o Migräne
- o andere Kopfschmerzen
- o Epilepsie
- o neurologische Probleme
- o niedriger Blutdruck
- o Kalziummangel
- o Leberschaden
- o Magen- oder Darmprobleme
- o Bauchspeicheldrüsenentzündung
- o Untergewicht
- o Übergewicht
- o Sonstiges: \_\_\_\_\_

## Teil 3: Angaben zur Gesundheit

3.1 Wann sind Sie das letzte Mal von einem Arzt  
gründlich untersucht worden? \_\_\_\_\_

3.2 Haben Sie zur Zeit ernsthafte Probleme mit  
Ihrer Gesundheit?      o nein      o ja

Wenn ja: Welcher Art sind diese  
Gesundheitsprobleme? \_\_\_\_\_

Seit wann haben Sie diese Probleme? \_\_\_\_\_

Haben die Ärzte Schwierigkeiten, eine kör-  
perliche Ursache für Ihre Probleme  
festzustellen?      o nein      o ja

3.4 Nur für Frauen:

Sind Sie schwanger?      o nein      o ja

wenn nein:

Planen Sie, in den nächsten sechs

Monaten schwanger zu werden?                      o nein                      o ja

Gibt es sonst noch irgend etwas, das Ihnen wichtig erscheint, bisher aber noch nicht erwähnt wurde?

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Wir danken Ihnen für Ihre Mühe beim Ausfüllen des Fragebogens. Bitte überprüfen Sie noch einmal, ob Sie auch wirklich alle Fragen beantwortet haben. Senden Sie dann den Fragebogen an die

Christoph-Dornier-Stiftung  
für Klinische Psychologie  
Universitätsstr. 27  
35037 Marburg

Wir werden uns nach der Auswertung des Fragebogens bei Ihnen melden und Sie über das weitere Vorgehen informieren.



PAT.NR.:

Version G

DATUM:

## Soziodemographischer Fragebogen

Bitte beantworten Sie die folgenden Fragen, indem Sie das jeweils auf Sie Zutreffende ankreuzen. Einige Fragen erfordern Angaben in Ihren eigenen Worten.

1. **Geschlecht:** weiblich   
männlich

2. **Geburtsdatum:** \_\_\_\_\_

3. **Familienstand** (Mehrfachangaben sind möglich):

- |   |                       |
|---|-----------------------|
| ledig   | <input type="radio"/> |
| verheiratet   | <input type="radio"/> |
| zum 2. Mal oder öfter verheiratet                               | <input type="radio"/> |
| getrennt lebend   | <input type="radio"/> |
| geschieden  | <input type="radio"/> |
| verwitwet   | <input type="radio"/> |
| unverheiratet mit Partner/in zusammenlebend                     | <input type="radio"/> |
| feste Partnerbeziehung, aber<br>in getrennten Haushalten lebend | <input type="radio"/> |
| keine feste Partnerbeziehung, aber<br>sexuelle Kontakte         | <input type="radio"/> |
| weder feste Partnerschaft noch<br>sexuelle Kontakte             | <input type="radio"/> |

4. **Dauer der jetzigen Partnerschaft** in Jahren und/oder Monaten:

**5. Ausbildungsstatus:**

- |   |                       |
|---|-----------------------|
| kein Schulabschluß                                      | <input type="radio"/> |
| Hauptschulabschluß                                      | <input type="radio"/> |
| Realschulabschluß                                       | <input type="radio"/> |
| Fachabitur  | <input type="radio"/> |
| Abitur  | <input type="radio"/> |
| Abgeschlossenes Fachhochschul-<br>oder Hochschulstudium | <input type="radio"/> |

**6. Erlernter Beruf:** \_\_\_\_\_

**7. Gegenwärtig ausgeübter Beruf:** \_\_\_\_\_

**8. Berufsgruppe des erlernten Berufs:**

Wenn Sie nicht ganz sicher sind, in welche Berufsgruppe Sie sich einordnen sollen, wählen Sie bitte die Kategorie, die am ehesten auf Sie zutrifft.

- |   |                       |
|---|-----------------------|
| Arbeiter/in   | <input type="radio"/> |
| Facharbeiter/in / Handwerker/in   | <input type="radio"/> |
| Angestellte/r / Beamter/in des einfachen Dienstes   | <input type="radio"/> |
| Angestellte/r / Beamter/in des mittleren Dienstes   | <input type="radio"/> |
| Angestellte/r / Beamter/in des gehobenen Dienstes   | <input type="radio"/> |
| Selbständige/r mit nicht-akademischem Beruf<br>(z.B. Landwirt/in ohne akademischen Abschluß,<br>Gastwirt/in, Ladeninhaber/in) | <input type="radio"/> |
| Selbständige/r Akademiker/in<br>(z.B. Arzt/Ärztin, Notar/in)  | <input type="radio"/> |
| Firmeninhaber/in (mittelständiges oder<br>großes Unternehmen, mehr als 20 Mitarbeiter)  | <input type="radio"/> |

Hausfrau/mann	<input type="radio"/>
Mithilfe im Familienbetrieb	<input type="radio"/>
Auszubildende/r	<input type="radio"/>
Schüler/in / Student/in	<input type="radio"/>

**9. Berufsgruppe des gegenwärtig ausgeübten Berufs:**

Auch bei dieser Einschätzung beachten Sie bitte: Wenn Sie nicht ganz sicher sind, in welche Berufsgruppe Sie sich einordnen sollen, wählen Sie die Kategorie, die am ehesten auf Sie zutrifft.

Arbeiter/in	<input type="radio"/>
Facharbeiter/in / Handwerker/in	<input type="radio"/>
Angestellte/r / Beamter/in des einfachen Dienstes	<input type="radio"/>
Angestellte/r / Beamter/in des mittleren Dienstes	<input type="radio"/>
Angestellte/r / Beamter/in des gehobenen Dienstes	<input type="radio"/>
Selbständige/r mit nicht-akademischem Beruf (z.B. Landwirt/in ohne akademischen Abschluß, Gastwirt/in, Ladeninhaber/in)	<input type="radio"/>
Selbständige/r Akademiker/in (z.B. Arzt/Ärztin, Notar/in)	<input type="radio"/>
Firmeninhaber/in (mittelständiges oder großes Unternehmen, mehr als 20 Mitarbeiter)	<input type="radio"/>
Hausfrau/mann	<input type="radio"/>
Mithilfe im Familienbetrieb	<input type="radio"/>
Auszubildende/r	<input type="radio"/>
Schüler/in / Student/in	<input type="radio"/>
Arbeitslos	<input type="radio"/>
Rentner/in	<input type="radio"/>

10. **Erlerner Beruf des Partners bzw. der Partnerin:** \_\_\_\_\_

11. **Gegenwärtig ausgeübter Beruf des Partners bzw. der Partnerin:** \_\_\_\_\_

12. **Berufsgruppe des erlernten Berufs des Partners bzw. der Partnerin:**

Bitte wählen Sie die Kategorie, die am ehesten auf den erlernten Beruf Ihres Partners bzw. ihrer Partnerin zutrifft.

- |   |                       |
|---|-----------------------|
| Arbeiter/in   | <input type="radio"/> |
| Facharbeiter/in / Handwerker/in   | <input type="radio"/> |
| Angestellte/r / Beamter/in des einfachen Dienstes   | <input type="radio"/> |
| Angestellte/r / Beamter/in des mittleren Dienstes   | <input type="radio"/> |
| Angestellte/r / Beamter/in des gehobenen Dienstes   | <input type="radio"/> |
| Selbständige/r mit nicht-akademischem Beruf<br>(z.B. Landwirt/in ohne akademischen Abschluß,<br>Gastwirt/in, Ladeninhaber/in) | <input type="radio"/> |
| Selbständige/r Akademiker/in<br>(z.B. Arzt/Ärztin, Notar/in)  | <input type="radio"/> |
| Firmeninhaber/in (mittelständiges oder<br>großes Unternehmen, mehr als 20 Mitarbeiter)  | <input type="radio"/> |
| Mithilfe im Familienbetrieb   | <input type="radio"/> |
| Hausfrau/mann   | <input type="radio"/> |
| Auszubildende/r   | <input type="radio"/> |
| Schüler/in / Student/in   | <input type="radio"/> |

13. **Berufsgruppe des gegenwärtig ausgeübten Berufs des Ehemanns bzw. Partners:**

Bitte wählen Sie die Kategorie, die am ehesten auf den gegenwärtig ausgeübten Beruf Ihres Ehemanns bzw. Partners zutrifft.

- |                                 |                       |
|---------------------------------|-----------------------|
| Arbeiter/in                     | <input type="radio"/> |
| Facharbeiter/in / Handwerker/in | <input type="radio"/> |

Angestellte/r / Beamter/in des einfachen Dienstes	<input type="radio"/>
Angestellte/r / Beamter/in des mittleren Dienstes	<input type="radio"/>
Angestellte/r / Beamter/in des gehobenen Dienstes	<input type="radio"/>
Selbständige/r mit nicht-akademischem Beruf (z.B. Landwirt/in ohne akademischen Abschluß, Gastwirt/in, Ladeninhaber/in)	<input type="radio"/>
Selbständige/r Akademiker/in (z.B. Arzt/Ärztin, Notar/in)	<input type="radio"/>
Firmeninhaber/in (mittelständiges oder großes Unternehmen, mehr als 20 Mitarbeiter)	<input type="radio"/>
Mithilfe im Familienbetrieb	<input type="radio"/>
Hausfrau/mann	
Auszubildende/r	<input type="radio"/>
Schüler / Student	<input type="radio"/>
Arbeitslos	<input type="radio"/>
Rentner	<input type="radio"/>

**14a. Geschlecht und Geburtsdatum der zur Zeit in Ihrem Haushalt lebenden Kinder:**

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**14b. Geschlecht und Geburtsdatum Ihrer leiblichen Kinder:**

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**15. Leben Ihre Eltern bzw. Schwiegereltern, andere Verwandte oder Bekannte mit im Haus?**

ja  nein

**Wenn ja, wer?**

Eltern	<input type="radio"/>
Schwiegereltern	<input type="radio"/>
Andere Verwandte	<input type="radio"/>
Bekannte	<input type="radio"/>

**16. Führen Sie einen gemeinsamen Haushalt mit Ihren Eltern/Schwiegereltern, anderen Verwandten oder Bekannten?**

ja  nein

**Wenn ja, mit wem?**

Eltern	<input type="radio"/>
Schwiegereltern	<input type="radio"/>
Andere Verwandte	<input type="radio"/>
Bekannte	<input type="radio"/>

**17. Religionszugehörigkeit:**

während der Kindheit: \_\_\_\_\_

derzeit: \_\_\_\_\_

**18. Inwiefern fühlen Sie sich derzeit einer Religionsgemeinschaft innerlich verbunden?**

Bitte kreuzen Sie auf der folgenden Skala die für Sie am meisten zutreffende Ziffer zwischen 1 und 8 an.

..... 1 ..... 2 ..... 3 ..... 4 ..... 5 ..... 6 ..... 7 ..... 8  
gar nicht sehr

## Konsiliarbericht

vor Aufnahme einer Psychotherapie durch  
Psychologische Psychotherapeuten und  
Kinder- und Jugendlichenpsychotherapeuten für

---

*Name und Geburtsdatum des Patienten/der Patientin*

Auf Veranlassung der:

**Christoph-Dornier-Stiftung**

Psych. \_\_\_\_\_

**für Klinische Psychologie**

Universitätsstr. 27, 35037 Marburg

Tel. 06421/17696-0, FAX 06421/17696-25

Bezugstherapeut:

Dipl.

**Es sollen ggf. Angaben zu folgenden Inhalten gemacht werden:**

Bestehen aus ärztlicher Sicht Hinweise auf Kontraindikationen zur geplanten Verhaltenstherapie der  
\_\_\_\_\_?

Werden Parallelbehandlungen durchgeführt (z.B. laufende Medikation) und kann diese für die Zeit der Therapie ausgesetzt werden?

**Psychiatrische bzw. kinder- und**

jugendpsychiatrische Abklärung ist  erforderlich  nicht erforderlich  
 erfolgt  ist veranlasst

Sind ärztliche/ärztlich veranlasste Maßnahmen bzw. Untersuchungen notwendig bzw. veranlasst und ggf. welche? \_\_\_\_\_

\_\_\_\_\_

- Aufgrund somatischer/psychiatrischer Befunde bestehen derzeit Kontraindikationen
- Aufgrund somatischer/psychiatrischer Befunde bestehen derzeit **keine** Kontraindikationen
- Ärztliche Mitbehandlung ist erforderlich

Art der Maßnahme: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

*Ausstellungsdatum*

\_\_\_\_\_



## ERKLÄRUNG

Ich versichere, dass ich meine Dissertation “Cognitive Behavioural Treatment for Social Phobia. Bridging the Gap between Research and Practice” selbständig, ohne unerlaubte Hilfe angefertigt habe und mich dabei keiner außer den von mir ausdrücklich bezeichneten Quellen und Hilfen bedient habe.

Die Dissertation wurde in der jetzigen oder einer ähnlichen Form bei keiner anderen Hochschule eingereicht und hat noch keinen sonstigen Prüfungszwecken gedient.

Marburg, 26.02.2003

Tania Marie Lincoln

# Curriculum Vitae

## **Lebenslauf:**

1972 – Geburt in Marburg

1991 - Abitur am Gymnasium Ohlstedt in Hamburg

1992 - Immatrikulation an der Philipps-Universität in Marburg, Hauptfach Psychologie

04.05.1995 – Diplom-Vorprüfung für Psychologen

12.05.1999 – Diplom-Hauptprüfung für Psychologen. Diplomarbeit. Burnout bei Hebammen. Ein internationaler Vergleich.

## **Publikationen:**

Lincoln, T. M., & Rammelsberg, J. (2001). Burnout –Vergleichende Arbeitsplatzbelastungen. *Hebammen Zeitschrift. Fachmagazin für Hebammen*, 2, 51-53.

Lincoln, T. M., & Rammelsberg, J. (2001). Burnout – Ausmaß und Auswege. *Hebammen Zeitschrift. Fachmagazin für Hebammen*, 4, 51-54.

Lincoln, T. M., & Rief, W. (in press). How much do sample characteristics affect the effect sizes? An investigation of studies testing the treatment effects of social phobia. *Journal of Anxiety Disorders*.

Lincoln, T. M., Rief, W., Hahlweg, K., Frank, M., von Witzleben, I., Schröder, B., & Fiegenbaum, W. (in press). Effectiveness of an empirically supported treatment for social phobia in the field. *Behaviour Research and Therapy*.

## **Tagungsbeiträge:**

Lincoln, T. M. (2003, Februar). *Wer kommt, wer bleibt, wer profitiert? Prädiktoren zur Vorhersage von Rücktritt, Dropout, Erfolg und Rückfall in der Behandlung von Sozialer*

*Phobie*. Vortrag auf dem Symposium der Christoph-Dornier-Stiftung für Klinische Psychologie, Köln.

Lincoln, T. M. (2003, Februar). *Effektivität einer empirisch gesicherten Behandlung für Soziale Phobie in der klinischen Praxis*. Vortrag auf dem 9. Kongress der Deutschen Gesellschaft für Verhaltensmedizin und Verhaltensmodifikation – DGVM, Göttingen.

Lincoln, T. M., Rief, W., Hahlweg, K., Frank, M., von Witzleben, I., Schröder, B., & Fiegenbaum, W. (2003, Mai). *Effektivität einer empirisch gesicherten Behandlung für Soziale Phobie in der klinischen Praxis*. Vortrag auf dem 3. Workshopkongress für Klinische Psychologie und Psychotherapie, Freiburg.

Lincoln, T. M., & Rief, W. (2003, Mai). *Welchen Einfluss haben Studiencharakteristika auf die Effektgröße? Eine Analyse von Studien zu Behandlungseffekten bei Sozialer Phobie*. Posterpräsentation auf dem 3. Workshopkongress für Klinische Psychologie und Psychotherapie, Freiburg.