

## Research Article

# Individual Cognitive Therapy for Professional Actors with Performance Anxiety

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Performance anxiety, which could be regarded as a type of social anxiety disorder, is a common and debilitating condition among professional artists. In spite of this, no clinical research has previously been done on treatment methods for professional actors with PA. In the current study A-B single case experimental designs and parametric statistics were used to report the treatment process of five actors with PA who were treated with 11-12 sessions of Individual Cognitive Therapy (ICT). ICT was found to reduce PA in four of the five cases, and resulted in significantly lower frequencies of safety behaviors and negative social thoughts. It was concluded that ICT could be an effective course of treatment for actors with PA.

**Keywords:** Performance anxiety; Stage fright; Social anxiety disorder; Cognitive behavior therapy; ICT

**Abbreviations**

CBT: Cognitive Behavior Therapy; CTCS-SP: Cognitive Therapy for Social Phobia Competence Scale; ES: Effect Size; GAD: Generalized Anxiety Disorder; ICT: Individual Cognitive Therapy; LSAS-SR: Liebowitz Social Anxiety Scale Self-Report; M.I.N.I: Mini International Neuropsychiatric Interview; PA: Performance Anxiety; SSRI: Selective Serotonin Reuptake Inhibitor; SCEDs: Single Case Experimental Designs; SAD: Social Anxiety Disorder; SBQ: Social Behavior Questionnaire; SCQ: Social Cognitions Questionnaire; SPWSS: Social Phobia Weekly Summary Scale; STAI-S: State-Trait Anxiety Inventory State Scale; P1: Participant 1; PND: Percentage of Non-overlapping Data

**Introduction**

The fear of being negatively evaluated while speaking or performing in public, Performance Anxiety (PA), is one of the most commonly self-reported fears in the population [1,2]. In Sweden for example, almost 25 % of the population suffers from PA [3]. This type of fear is common among musicians - here usually referred to as stage fright, - affecting some 15% to 25% [4]. The prevalence rates among professional actors are less clear. The only study in the field found an occurrence of severe PA in 9.6% in a sample of actor students (n: 178) [5]. Overall, PA among professional artist results in psychological suffering and impaired performance, and for some it may be the end of their career [5,6].

In the recent update of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) PA is regarded as a specified for Social Anxiety Disorder (SAD), which is characterized by fear of embarrassment and negative evaluation while engaged in social interaction *or* social performance situations [7]. Individuals with PA, in relation to other individuals with SAD, tend to develop their fears later on in life, are not behaviorally inhibited, and experience stronger psycho physiological responses to certain situations, such as giving a speech in front of an audience or giving a musical performance [8].

Little knowledge exists about artists' PA, how it is best understood and treated and to this day there are no treatment studies of professional actors with PA [9]. Cognitive Behavior Therapy (CBT) has proven to be an effective treatment of generalized SAD in several studies [10]. Even though PA is a specifies for SAD, the population of professional actors differs considerably from the general population with SAD. Professional actors have had performance training and large amounts of experience performing on stage, yet they still experience intense fear in these situations. Treatment studies of musicians however suggest that CBT might be effective for PA [11], but it has not yet been studied in professional actors. Individual Cognitive Therapy (ICT) is a relatively recently developed treatment specifically tailored for SAD, which makes it a credible choice of treatment for actors with PA. ICT has proven more effective in treating SAD than other formats of CBT, other psychological treatments, medication based treatment as usual and Selective Serotonin Reuptake Inhibitors (SSRIs) [12-16].

ICT [1] stems from Clark and Wells cognitive model of the maintenance of SAD [17]. According to this model, individuals with SAD have developed negative assumptions about themselves and others, which make social situations, seem threatening. These assumptions lead to negative beliefs about what might happen in social situations; e.g. that acting inappropriately or exposing one's anxiety to others will result in social seclusion or humiliation [17]. Clark and Wells identify four central maintenance processes of SAD: (1) safety behaviors (2) self-focused attention, and negative information processing (3) before social situations and (4) after social situations [17]. Safety behaviors are described as maladaptive coping strategies that provide temporary relieve of anxiety and are used to prevent feared catastrophes. In the long run, safety behaviors prevent disconfirmation of negative beliefs and increase the risk of actual inadequate social behavior since safety behaviors impede the individual's ability to act in a socially flexible manner [18,19]. Self-focused attention is conceptualized as being highly self-conscious of how one act and appears in front of others [17]. This type of selective attention leads individuals with SAD to focus excessively on negative

internal information and to evaluate their social performance based on that biased information. Self-focused attention thus makes the individual more focused on aversive emotions and believes which, in turn, increases the likelihood of negative evaluation of social situations [1]. Furthermore, an increase in self-focus consumes attention, thus leading to an impaired processing of external social cues given by others – cues that are paramount to successful social interaction [17].

The purpose of ICT is to interrupt these four maintaining processes through different individually adjusted cognitive and behavioral interventions. Using this method, the therapist assists the patient in challenging and disqualifying negative beliefs and assumptions by using various cognitive tasks which foster more realistic and nuanced interpretations of social cues and of one's self-image in social situations [1].

The current study describes the course of ICT in five actors with PA in series of single case experimental A-B designs with complementary parametric statistics. The aim of the study was to explore whether ICT is an effective treatment for actors with PA. It was hypothesized 1) that ICT leads to a decrease in PA during stage performances, and 2) that ICT leads to a decrease in general social anxiety levels, negative thoughts and safety behaviors.

## Materials and Methods

### Overview

The study was designed to be an A-B Single Case Experimental Design (SCED) [20] and included three baseline assessments (A-phase) followed by weekly assessments (see below) of treatment sessions (B-phase). A battery of additional measures was also administered before treatment, after treatment and at one-month follow-up. These measures were analyzed with parametrical statistics.

### Participants

Actors throughout Stockholm were recruited through advertisements in the Swedish actor's trade magazine, informational meetings at local theaters, and through mailing lists provided by a local theater. A total of nine actors contacted the authors and were interviewed using the Mini International Neuropsychiatric Interview (M.I.N.I) [21], as well as the section for social phobia in the Anxiety Disorders Interview Schedule for DSM-IV (ADIS) [22]. The inclusion criteria were the following: (1) that the individual had worked as an actor for the majority of his or her career; (2) that the individual fulfilled the criteria for social phobia according to DSM-IV-TR [23]; (3) that the individual had suffered from PA for at least one year; (4) and that the individual did not suffer from alcohol or substance abuse. Comorbid mental illness was not a criterion for exclusion, nor was taking psychotropic medication. Five actors met the inclusion criteria and agreed to participate in the study - three women and two men, with mean age of 49 years (SD = 15, 8). The actors had been professionally active for 21, 4 years on average (SD: 10, 3), and had suffered from PA on average for 26, 6 years (SD: 21, 3). Two participants were medicated with an SSRI and both agreed to keep the dosage stable during the time of the study. Calculations showed adequate inter-rater reliability regarding determination of social phobia diagnoses (Cohen's kappa = 0.82) [24].

Participant 1 (P1) was a male in his fifties. He was a formally trained actor and had been working as such for more than 30 years and had not experienced PA during the first 20 years of his career. Ten years ago however, it had gradually started to build up and he had barely been able to work as an actor since developing PA. He often experienced anxiety due to his perceived lack of acting skills, as he thought them to be unsatisfactory. Apart from PA, P1 had also had problems with major depression, which preceded his PA, and panic attacks which started at roughly the same time as his PA did. During the time that P1 underwent treatment with ICT for the purpose of this study, he was medicated with an antidepressant medication (SSRI). He had undergone several treatments of psychotherapy, both CBT and psychodynamic therapy, but these had mainly focused on his depression. P1's treatment goals were to be more open about his thoughts and feelings and to engage in a number of social situations that he had previously avoided. Because P1 was unsure whether he wanted to return to the stage or not, and since he did not work as an actor at the time, his treatment focused mainly on other feared social situations, rather than performing on stage.

Participant 2 (P2) was a female in her late sixties who fulfilled the DSM-IV-criteria for non-generalized SAD. She had been working as an actress, dancer and singer for 24 years. As long as she could remember, she had always associated performing on stage and in front of a camera with considerable anxiety. Because of her anxiety, she avoided certain types of performances altogether (e.g. stand-up comedy) and experienced considerable suffering and performance loss during stage and film acting. Other types of performances, such as lecturing, were not associated with PA. Apart from PA, she also experienced anxiety in various other social situations, such as formal meetings and while spending time with relatives. P2 had suffered from several episodes of major depression and had recently undergone three years of transactional psychotherapy with unclear purpose. P2's treatment goals were to engage in types of performances she had previously avoided and to be able to stand up for her.

Participant 3 (P3) was a female in her fifties and fulfilled the DSM-IV-criteria for non-generalized SAD. She was formally trained and had been working as an actress on stage, on television and on the radio for 15 years, but had ended her career five years prior to this study due to PA. As long as she could remember, she had always experienced intense anxiety when performing on stage. Her anxiety had been exacerbated by two aversive events during her formal training, in which she experienced a blackout and was unable to give her performance. She had been able to manage her PA during the first ten years of her career, but as time passed her need for preparations intensified up to the point where she needed to undergo an elaborate set of superstitious behaviors to be able to perform. These behaviors were both time consuming and discouraging, in the sense that she felt it took away the joy of performing. P3 considered her acting career as finished, although she frequently dreamed about returning to the stage. At the time of the study she was engaged in academic studies, and experienced PA when she gave presentations or participated in seminars and group collaborations. She was also anxious about certain other social situations. Talking on the phone in public is one example. The goals of the treatment for P3 were to give presentations without consuming beta-blockers, to be able to focus on the content of her performances and to begin applying for jobs as an actress.

Participant 4 (P4) was a female in her twenties without formal training in acting who had been working as an actor for ten years on stage, on television, in the movies and on the radio. She fulfilled the DSM-IV-criteria for generalized SAD and had suffered from PA ever since she started working as an actress. During one of her first stage performances, she experienced a panic attack and had to walk off stage. This experience haunted her and she was afraid that it might happen again if she became too emotionally aroused prior to a performance. She had been scrutinized by the media several times and was therefore afraid to becoming publicly humiliated if she was not able to live up to the audience's expectations of her. P4 worked full time as an actor even though she suffered from PA. Her PA had recently intensified to the point that it was interfering with her career. At the time of the study, she was engaging herself only in certain types of performances and had turned down several job offers because of her PA. P4 had undergone CBT for PA as well as for SAD in the past, but had continued to experience anxiety on stage as well as in several social situations. Her treatment goals were to accept more jobs that were anxiety evoking to her, and to give lectures by her.

Participant 5 (P5) was a male in his forties who had been working on stage as a formally trained actor, singer and dancer for the past 20 years. He fulfilled the criteria for non-generalized SAD. According to himself, he had always experienced a high degree of anxiety before, during and after performances. His anxiety was exacerbated by an aversive experience while working on a production that received bad reviews. During the first years of his career he would often cry after performances because he thought his performance were lousy. Even though his PA had improved somewhat, it still consumed a large amount of time and energy in his daily life. At the time of the study he experienced intense anxiety before going on stage - especially before singing. Although he did not avoid any kind of performance situation, he rarely auditioned for singing parts, and the preparations he made in order to cope with his PA were time-consuming and interfered with his everyday life, limiting relations with family and friends before and after performances. P5's treatment goals were to attend more auditions for singing parts, to eat and spend time with family and friends prior to performances and to be more relaxed before and during performances.

### Treatment

In accordance with the manual of Clark [25], the treatment consisted of: 1) creating an idiosyncratic model of how PA was maintained by using the participant's own thoughts, attention strategies/images, and safety-behaviors; 2) safety behavioral experiments using experiential exercises aiming to demonstrate the adverse effect of safety behaviors, in contrast to dropping them; 3) video feedback to modify a negatively biased self-image e.g., by viewing the objective social performance with or without safety behaviors; 4) attention training (self focused versus externally focused attention) to demonstrate the adverse effects of self focused attention in feared situations; 5) behavioral experiments (*in vivo* - on stage and in other social situations - and in-session), to test negative thoughts/beliefs about feared outcomes of exposure situations; 6) verbal cognitive restructuring to challenge dysfunctional negative beliefs.

In addition, "the Assertive Defense of the Self" intervention (ADS) [26] was administered. This additional intervention (not involved in the original ICT) was adopted, as actors commonly are

subjected to the opinions of others and cannot avoid criticism. For practical reasons the original ICT-protocol was shortened by 25%. Instead of two 90 minute-sessions followed by fourteen 60 minute-sessions, 16x45 minutes was administered over 11 to 12 sessions (some of them double-sessions). In total 720 minutes of therapy was given to each actor over a period of 12 to 14 weeks.

### Therapists, supervision and treatment integrity

The two first authors of the study conducted ICT as a part of a master thesis at the clinical psychologist program in Stockholm, Sweden. They underwent a five-week training in treatment of SAD and the Clark and Wells model of SAD [17], and received weekly supervision from the third author. All treatment sessions were video recorded and checked for treatment integrity during supervision. Before the treatment began all of the participants gave written, informed consent to participate in the study and to have their session's video recorded. An independent rater, blind to treatment outcome, rated therapist competence in a random selection of video recorded tapes - one tape from every treatment - according to the norms of The Cognitive Therapy for Social Phobia Competence Scale (CTCS-SP) [27]. The average score of the therapists' competence in this study according to CTCS-SP was 3.4, indicating a "satisfactory" competence.

### Measures

**Weekly measures:** Weekly measures were administered before each session. A modified version of the state scale from the State-Trait Anxiety Inventory (STAI-S) [28] was used to evaluate levels of PA during performances. The modification being that the sentence "how do you feel now, that is, in this moment" had been replaced with the sentence "how do you feel during stage performances". STAI-S has previously been used in clinical studies of treatment for PA, e.g. [5,29,30] and has been proven to be a reliable scale [31].

The Social Phobia Weekly Summary Scale (SPWSS) was used as weekly measurement of general social anxiety as conceptualized by Clark and Wells [17], which contains items on general social anxiety, avoidance, self-focus and post-event rumination. The scale has demonstrated high internal consistency (Cronbach's  $\alpha=0.81$ ) and has been proven to be sensitive to treatment effects [12,13,15].

**Additional measures:** Additional measures were administered at three occasions: pre-treatment, post-treatment and follow-up (four weeks after post-treatment).

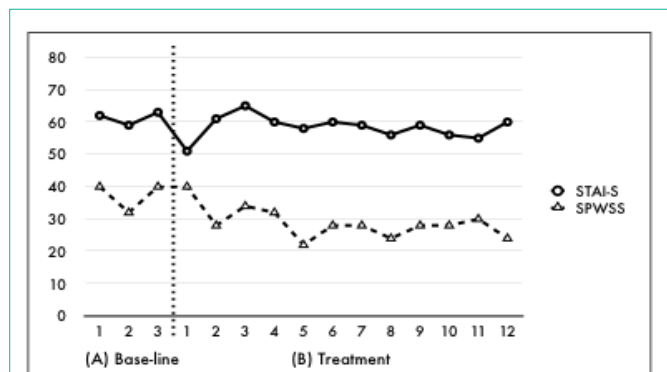
The Liebowitz Social Anxiety Scale Self-report (LSAS-SR) was used to estimate social anxiety and avoidance. LSAS-SR is a frequently used, self-report questionnaire in studies of treatment for SAD [32] and has demonstrated adequate psychometric properties [33].

The Social Cognitions Questionnaire (SCQ) [34] was used as a measure of negative thoughts in social contexts and has demonstrated high internal consistency (Cronbach's  $\alpha=0.89$ ) [35].

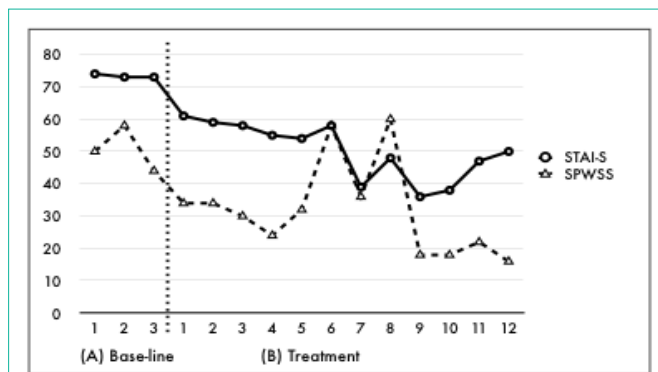
The Social Behavior Questionnaire (SBQ) [35] was used to measure the frequency of safety behaviors in social contexts. SBQ has demonstrated high internal consistency (Cronbach's  $\alpha=0.80$ ) [35].

### Data analysis

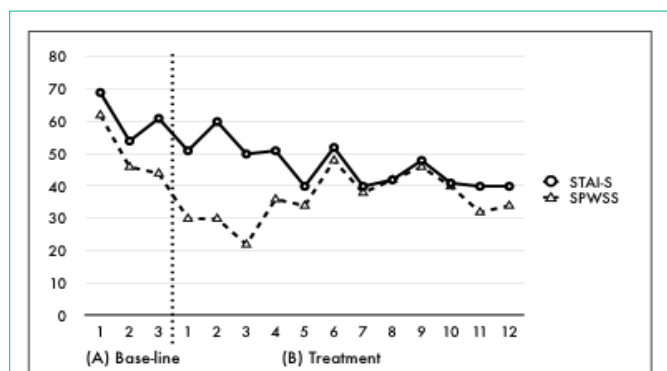
Single case descriptions and analysis through visual inspection and Percentage of Non-overlapping Data (PND), were used. PND is a



**Figure 1:** P1's weekly measures of STAI-S and SPWSS. SPWSS has been multiplied by 10 to fit the same scale as STAI-S (0-80 instead of 0-8).  
**Abbreviations:** STAI-S: State-Trait Anxiety Inventory-State Scale; SPWSS: Social Phobia Weekly Summary Scale.



**Figure 3:** P3's weekly measures of STAI-S and SPWSS. SPWSS has been multiplied by 10 to fit the same scale as STAI-S (0-80 instead of 0-8).  
**Abbreviations:** STAI-S: State-Trait Anxiety Inventory - State Scale; SPWSS: Social Phobia Weekly Summary Scale.



**Figure 2:** P2's weekly measures of STAI-S and SPWSS. SPWSS has been multiplied by 10 to fit the same scale as STAI-S (0-80 instead of 0-8).  
**Abbreviations:** STAI-S: State-Trait Anxiety Inventory - State Scale; SPWSS: Social Phobia Weekly Summary Scale.

Figure 2 shows the self-ratings of P2. The graph shows a marked decrease in PA as measured by STAI-S, with a high effect of 93 PND. The SPWSS graph also shows a decrease in general social anxiety with a PND of 83 (moderate effect), even though the change is not constant. The slope in the baseline taken together with the otherwise sprawling self-ratings indicates that the SPWSS scores are affected by factors other than treatment. Therefore, it is difficult to estimate how much of this change is due to treatment. P2 fulfilled some of her treatment goals. She was able to stand up to others and perform in some situations she had previously avoided. However, some of her feared situations were left unexplored – those of which time was not sufficient for.

Figure 3 shows P3's marked decrease in PA on STAI-S with a PND of 100, indicating high effect. The SPWSS scores also show a slight decrease in general social anxiety with a PND of 83. The graph indicates two spikes in SPWSS between sessions 6 and 9. These spikes could be the result of the behavioral experiments during these sessions. The behavioral experiments consisted partially of registering automatic negative thoughts, which may have temporarily increased P3's social awareness. P3 reached all of her treatment goals. She had made several presentations without beta-blockers and felt more comfortable during public performances. She also applied for a theatrical part and was able to focus on the content of her performance during her school presentations.

Figure 4 shows P4's marked decrease of PA measured by STAI-S with a high effect of 92 PND. The SPWSS graph shows no obvious change in general social anxiety and an effect of 33 PND indicates that treatment had no effect on SPWSS. She completed all of her treatment goals and did several presentations on her own. At the end of therapy she accepted a job offer she had previously feared accepting.

Figure 5 shows P5's decrease in STAI-S with a PND of 83, which shows a moderate effect on PA. The slope in the base line lessens the certainty of the analysis, however. It is difficult to determine whether the change occurred because of the treatment or because of some other independent factor. The SPWSS graph shows a slight increase in general social anxiety and a PND of only 8. At the end of treatment, SPWSS has returned to its original level. Perhaps P5 was unaware of the extent to which his behaviors were ruled by social anxiety at the beginning of the treatment, resulting in the temporary

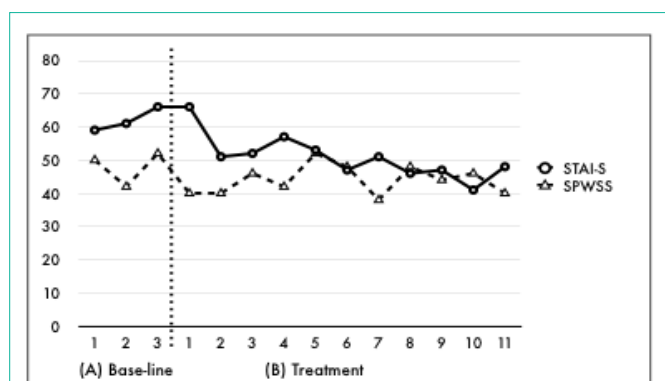
frequently used effect measure in SCED [36]. It reflects the percentage of the measurements taken during the treatment phase, which does not overlap with any of the measurements taken during the base-line phase. PND < 50 means no obvious effect is indicated, 50 < PND < 70 means questionable effectiveness is indicated, 70 < PND < 90 means moderate effect is indicated and PND > 90 means high effect is indicated [37].

Additional measures were analyzed using repeated measures Analyses of Variance (ANOVA) by time (pre-treatment, post-treatment and follow-up) and group (n: 5). Due to the small sample size (violating the assumptions of random sampling and normal distribution), the results of these analyses were used as a complement to the single-case analyses.

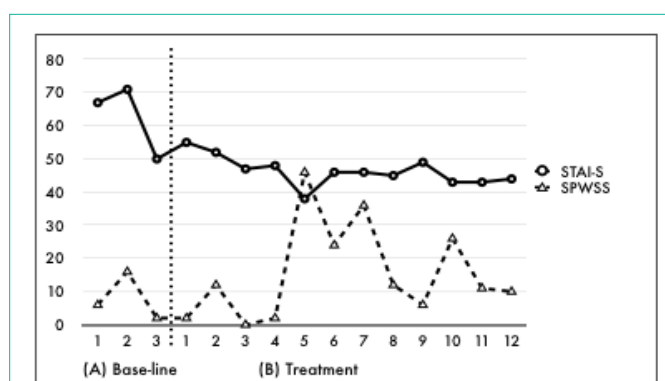
## Results

### Assessment of weekly progress during treatment

Figure 1 shows P1's weekly measurements, which show no obvious change in PA measured by STAI-S. With a PND of 42, no reduction of PA is indicated. The graph of SPWSS shows a slight decrease in general social anxiety. With a PND of 75 this is a moderate change. P1 fulfilled all of his treatment goals and was able to participate in situations previously avoided. He was now, self-reportedly, more honest and forgiving towards himself.



**Figure 4:** P4's weekly measures of STAI-S and SPWSS. SPWSS has been multiplied by 10 to fit the same scale as STAI-S (0-80 instead of 0-8). Abbreviations: STAI-S: State-Trait Anxiety Inventory - State Scale; SPWSS: Social Phobia Weekly Summary Scale.



**Figure 5:** P5's weekly measures of STAI-S and SPWSS. SPWSS has been multiplied by 10 to fit the same scale as STAI-S (0-80 instead of 0-8). Abbreviations: STAI-S: State-Trait Anxiety Inventory - State Scale; SPWSS: Social Phobia Weekly Summary Scale.

increase. As with P3, P5's value spikes occur simultaneously with behavioral experiments that included registration of automatic negative thoughts. At the end of treatment P5 was able relax before and during performances. He spent time with family and friends before performances and was able to use the time constructively, instead of excessively rehearsing lines or ruminating. He had applied for one singing part, which was less than what he had wanted in the beginning of the treatment.

In conclusion, all of the actors reached their individual treatment goals and four out of five reported reduced levels of PA.

### Assessment of progress from pre- to post-treatment and 1-month follow-up

Table 1 shows the participants scores on STAI-S, LSAS-SR, SBQ and SCQ. The repeated measures ANOVA indicated a significant reduction in PA (STAI-S), negative thoughts (SCQ) and Safety Behaviors (SBQ). There was however, no significant change in general social anxiety and avoidance (LSAS-SR). The measurement of change showed large effect sizes on STAI-S, SCQ and SBQ according to Öst's criteria for within-group ES (0.5 small, 0.8 moderate, 1.2 large) [38]. The reduction of LSAS-SR indicated a medium effect size.

## Discussion

The aim of this study was to investigate whether ICT is a viable

**Table 1:** Pre-treatment, post-treatment and follow-up scores at a group level.

Measure	Pre-treatment Mean (SD)	Post-treatment Mean (SD)	Follow-up Mean (SD)	F	Effect Size
State-Trait Anxiety Inventory - State	66.2 (5.9)	48.4 (7.5)	45.8 (6.2)	12.6**	3.5
Liebowitz Social Anxiety Scale	62.0 (18.1)	49.2 (21.0)	44.6 (31.5)	1.9	0.96
Social Behaviour Questionnaire	35.8 (7.3)	27.8 (6.9)	19.8 (11.0)	9.1**	2.19
Social Cognitions Questionnaire	62.4 (11.7)	34.2 (8.6)	34 (13.8)	14.2**	2.43

**Note:** The group effect sizes were calculated with regard to differences between pre-treatment and follow up measurements ( $M_{pre} - M_{follow-up} / SD_{pre}$ ) [38].  $P < 0.01$ . = \*\*.

treatment for professional actors with PA. Five professional actors with PA who met the DSM-IV criteria for SAD were recruited and underwent 11 to 12 session ICT. An A-B Single Case Experimental Design was applied to all five cases with complementary parametric statistics.

Our first hypothesis of reduced PA was supported, whereas the second hypothesis concerning a reduction of social anxiety, avoidance, negative beliefs and safety behaviors was partly supported. There was a significant reduction of negative thoughts and safety behaviors but not of social anxiety and avoidance.

Four out of five actors show a marked decline of self-rated PA in their STAI-S-graphs. Looking at the reduction of PA in terms of PND, the treatment showed high effect for three of the actors, moderate effect for one and no effect for one. The large effect size ( $ES = 3.5$ ) at the group level further supports the conclusion of reduced levels of PA. Thus, the current study indicates that the use of ICT focused on stage performances is a promising treatment for actors with PA.

All actors except P5 showed relatively stable baseline-measures on STAI-S, indicating that the reduction of PA for P2, P3 and P4 was indeed due to the treatment. For P5, a more stable baseline would have yielded more certainty that the reduction was due to treatment. Still the overlap between baseline- and treatment-phase in P5 is small, making it plausible to assume that the reduction was due to treatment in this case as well. All of the participants reported that their PA had been a problem for at least ten years. Therefore, it is unlikely that the decrease in participants' problems could be attributed to other variables like regression to the mean or time effects. The lack of control group makes it difficult to differentiate between treatment-effect and placebo effect. However, in comparison to the treatment study by Kendrick, Craig and Lawson's on pianists with PA [29], the current study showed an even larger effect. In Kendrick, Craig and Lawsons CBT study interventions yielded an 8.1-11.8 point decrease in STAI-S values [29], whereas ICT in the current study yielded a 20,4 point decrease. Considering that the reduction of STAI-S values found in Kendrick, Craig and Lawson's study was significantly larger than that of a wait-list control group [29], it is reasonable to assume that the decrease of STAI-S values in the current study are also a cause of treatment rather than underlying factors such as spontaneous recovery.

Comparing the current study's participants' levels of PA to a larger sample illuminates the severity of their PA. Compared to a population of acting students ( $n=178$ ) studied by Steptoe et al. [5], the actors in this study, prior to ICT, reported on average higher

anxiety on the STAI-S scale ( $M=66.2$ ) than the 9.6% of the population considered to have severe problems with PA ( $M=57.4$ ). After ICT, the actors in the current study reported PA to be only 2.9 points higher than the average of the whole sample in Steptoe et al.'s study [5], a level considered to be a "minor problem" in the study.

Contrary to the hypothesis, ICT did not lead to any obvious decline in weekly measures of SPWSS, nor any significant reduction in participants' general level of social anxiety as measured by LSAS-SR, although a non-significant trend was indicated. The non-significant results were unexpected, especially considering the treatment lowered the negative thoughts and safety behaviors assumed to maintain social anxiety. A possible explanation is that the therapeutic focus on stage performances in this study did not generalize well to anxiety in other social situations measured by LSAS-SR.

Compared with the general clinical population with SAD ( $N=99$ ) found in Fresco, Coles, Heimberg et al.'s study [39], the participants in the current study rated less severe social anxiety and avoidance both before and after treatment – 12.53 points ( $SD: 0.53$ ) lower before treatment, and 25.33 points ( $SD: 1.09$ ) lower after treatment on the LSAS-SR scale. However, compared to a non-clinical population ( $N=53$ ) the participants rated much higher levels of social anxiety and avoidance. On average participants in the current study measured 48, 51 points ( $SD: 3.82$ ) higher before treatment and 35.71 points ( $SD: 2.81$ ) higher after treatment on the LSAS-SR. This comparison indicates that the social anxiety actors with PA experience might not be limited to performance situations, which needs to be taken into account during treatment.

The reported effects of treatment on PA can plausibly be generalized to other actors. Even though the population treated was small (five actors), it was heterogenic in age, gender, experience, employment position and comorbidity. This shows that the treatment has effect on actors with diverse backgrounds, experiences and psychiatric comorbidity. The fact that no actors were excluded due to use of medication, comorbidity and previous treatments, strengthens the external validity of the study.

Future research should focus on replicating the results reported here. The design of the current study could be improved by a longer base-line phase and the use of multiple baselines. Including a control group and using a larger number of participants are also desirable in order to strengthen the prospect of inferences. The results of this study can probably be extended to other areas of the performing arts, but of course further studies need to confirm this. Future research should also evaluate the effects of specific treatment components of ICT, and how treatment for performing artists best targets PA and general social anxiety simultaneously. If ADS is to be used as a part of ICT in treating actors it requires further evaluation.

## Conclusion

These cases demonstrate that ICT appears to be a promising treatment for PA in actors, which effectively diminishes negative social thoughts and safety behaviors. The participants' high ratings of general social anxiety and avoidance suggest that actors with PA also suffer from social anxiety in situations off-stage as well. Participants' static levels of self-rated general social anxiety and avoidance indicate that the treatment of actors with PA must include other types of social

situations. Hence, clinicians must be open to broadening the scope of treatment when working with actors with PA.

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## References

- Clark DM. A cognitive model of social phobia. *International Handbook of Social Anxiety: Concepts, Research and Interventions Relating to the Self and Shyness*. Edited. John Wiley & Sons Ltd. New York. 2001.
- Ruscio AM, Brown TA, Chiu WT, Sareen J, Stein MB, Kessler RC. Social fears and social phobia in the USA: Results from the National Comorbidity Survey Replication. *Psychological Medicine*. 2008; 38: 15-28.
- Furmark T, Tillfors M, Everz P, Marteinsdottir I, Gefvert O, Fredrikson M. Social Phobia in the General Population: Prevalence and Sociodemographic Profile. *Social Psychiatry and Psychiatric Epidemiology*. 1999; 34: 416-424.
- Steptoe A. Negative Emotions in Music Making: The Problem of PA. Juslin PN, Sloboda JA, editors. In: *Music and Emotion: Theory and Research*. Oxford University Press: Oxford. 2001.
- Steptoe A, Pearson P, Price C, Win Z. The Impact of Stage Fright on Student Actors. *British Journal of Psychology*. 1995; 86: 27-39.
- Studer R, Gomez P, Hildebrandt H, Arial M, Danuser B. Stage Fright: It's Experience As a Problem and Coping With It. *International Archives of Occupational and Environmental Health*. 2011; 84: 761-771.
- American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders*. 5<sup>th</sup> edn. Arlington, VA: American Psychiatric Publishing. 2013.
- Bögels SM, Alden L, Beidel DC, Clark LA, Pine DS, Stein MB, et al. Social anxiety disorder: questions and answers for the DSM-V. *Depress Anxiety*. 2010; 27: 168-189.
- Taborsky C. Musical PA: A Review of Literature. Update: Applications of Research in Music Education. 2007; 26: 15-25.
- Canton J, Scott KM, Glue P. Optimal treatment of social phobia: systematic review and meta-analysis. *Neuropsychiatr Dis Treat*. 2012; 8: 203-215.
- McGinnis AM, Milling LS. Psychological Treatment of Musical Performance Anxiety: Current Status and Future Directions. *Psychotherapy: Theory, Research, Practice, Training*. 2005; 42: 357-373.
- Clark DM, Ehlers A, McManus F, Hackmann A, Fennell M, Campbell H, et al. Cognitive Therapy vs. Fluoxetine Plus Self Exposure in the Treatment of Generalized Social Phobia (Social Anxiety Disorder): A Randomized Placebo Controlled Trial. *Journal of Consulting and Clinical Psychology*. 2003; 71: 1058-1067.
- Clark DM, Ehlers A, Hackmann A, McManus F, Fennell M, Grey N, et al. Cognitive Therapy versus Exposure & Applied Relaxation in Social Phobia: A Randomized Controlled Trial. *Journal of Consulting and Clinical Psychology*. 2006; 74: 568-578.
- Stangier U, Schramm E, Heidenreich T, Berger M, Clark DM. Cognitive therapy vs interpersonal psychotherapy in social anxiety disorder: a randomized controlled trial. *Arch Gen Psychiatry*. 2011; 68: 692-700.
- Mörtberg E, Clark DM, Sundin O, Aberg Wistedt A. Intensive group cognitive treatment and individual cognitive therapy vs. treatment as usual in social phobia: a randomized controlled trial. *Acta Psychiatr Scand*. 2007; 115: 142-154.
- Leichsenring F, Salzer S, Beutel ME, Herpertz S, Hiller W, Hoyer J, et al. Psychodynamic therapy and cognitive-behavioral therapy in social anxiety disorder: a multicenter randomized controlled trial. *Am J Psychiatry*. 2013; 170: 759-767.

17. Clark DM, Wells A. A Cognitive Model of Social Phobia. Heimberg R, Liebowitz M, Hope DA, editors. In: *Social Phobia. Diagnosis, Assessment and Treatment*. New York: Guilford press. 1995.
18. Clark DM, McManus F. Information processing in social phobia. *Biol Psychiatry*. 2002; 51: 92-100.
19. Salkovskis PM. The Importance of Behavior in the Maintenance of Anxiety and Panic: A Cognitive Account. *Behavioral Psychotherapy*. 1991; 19: 6-19.
20. Barlow DH, Nock MK, Hersen M. *Single Case Experimental Designs: Strategies for Studying Behavior Change*. 3<sup>rd</sup> edition. Boston: Pearson Education inc. 2009.
21. Harnett-Sheehan K, Janavs J, Weiller E, Bonara LI, Keskiner A, Schinka J, et al. Reliability and Validity of the Mini International Neuropsychiatric Interview (M.I.N.I.) According to the SCID-P. *European Psychiatry*. 1997; 12: 232-241.
22. Brown TA, Di Nardo PA, Barlow DH. *Anxiety Disorders Interview Schedule for DSM-IV*. Albany, NY: Gray wind Publications. 1994.
23. American Psychiatric Association. *MINI-D IV Diagnostician criteria enlist DSM-IV-TR*. Pilgrim Press: Stockholm. 2000.
24. Landis JR, Koch GG. The measurement of observer agreement for categorical data. *Biometrics*. 1977; 33: 159-174.
25. Clark DM. *Cognitive Therapy for Social Phobia: Some Notes for Therapists*. Unpublished manuscript. 1997.
26. Padesky CA. A more effective treatment focus for social phobia? *International Cognitive Therapy Newsletter*. 1997; 11: 1-3.
27. Von Consbruch K, Clark DM, Stangier U. Assessing Therapeutic Competence in Cognitive Therapy for Social Phobia: Psychometric Properties of the Cognitive Therapy Competence Scale for Social Phobia (CTCS-SP). *Behavioural and Cognitive Psychotherapy*. 2012; 40: 149-161.
28. Schmidt WD, O'Connor PJ, Cochrane JB, Cantwell M. Resting metabolic rate is influenced by anxiety in college men. *J Appl Physiol* (1985). 1996; 80: 638-642.
29. Kendrick MJ, Craig KD, Lawson DM, Davidson PO. Cognitive and behavioral therapy for musical-performance anxiety. *J Consult Clin Psychol*. 1982; 50: 353-362.
30. Kenny DT, Fortune JM, Ackermann B. Predictors of Music PA During Skilled Performance in Tertiary Flute Players. *Psychology of Music*. 2011; 41: 306-328.
31. Ramanaiah NV, Franzen M, Schill T. A psychometric study of the State-Trait Anxiety Inventory. *J Pers Assess*. 1983; 47: 531-535.
32. Powers MB, Sigmarsson SR, Emmelkamp PMG. A Meta-Analytic Review of Psychological Treatments for Social Anxiety Disorder. *International Journal of Cognitive Therapy*. 2008; 1: 94-113.
33. Baker SL, Heinrichs N, Kim HJ, Hofmann SG. The Liebowitz Social Anxiety Scale as a Self-Report Instrument: A Preliminary Psychometric Analysis. *Behavior Research and Therapy*. 2002; 40: 701-715.
34. Tanner RJ, Stopa L, De Houwer J. Implicit views of the self in social anxiety. *Behav Res Ther*. 2006; 44: 1397-1409.
35. Clark DM. Three Questionnaires for Measuring Central Constructs in the Cognitive Model of Social Phobia: Preliminary Analysis. Unpublished. 2005.
36. Parker RI, Hagan-Burke S. Useful effect size interpretations for single case research. *Behav Ther*. 2007; 38: 95-105.
37. Scruggs TE, Mastropieri MA, Cook SB, Escobar C. Early Intervention for Children with Conduct Disorders: A Quantitative Synthesis of Single-Subject Research. *Behavioral Disorders*. 1986; 11: 260-271.
38. Öst L-G. Det empiriska stödet för KBT vid psykiska störningar. Öst L-G, editor. In: *KBT inom psykiatrin*. 2nd edn. Natur & Kultur: Stockholm. 2013.
39. Fresco DM, Coles ME, Heimberg RG, Liebowitz MR, Hami S, Stein MB, et al. The Liebowitz Social Anxiety Scale: A Comparison of the Psychometric Properties of Self-Report and Clinician-Administered Formats. *Psychological medicine*. 2001; 31: 1025-1035.