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Practitioner Report Task Concentration Training and Fear of Blushing

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Self-focused attention (SFA) is considered to be an important factor in the maintenance of social phobia. It is argued that this might be especially so in erytrophobia since physiological arousal (notably blushing) serves to focus attention inwards and heightened SFA may cause a blushing reaction. From this perspective, a treatment strategy is proposed that specifically aims at reducing SFA in erytrophobics. Two case studies are presented to illustrate the clinical use of task concentration training. Results revealed that task concentration training strongly decreased blushing propensity, fear of blushing, avoidance behaviour, and negative beliefs about the consequences of blushing.

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INTRODUCTION

Heightened self-focused attention (SFA) is assumed to play an important role in the maintenance of social phobia (Hartman, 1983; Hope *et al*., 1989; Butler, 1989; Clark and Wells, 1995). The idea is that social phobics direct too much attention to themselves during social interactions (to their emotions, self-thoughts, behaviour, physical appearance, arousal) and have little attention for their task, the other person(s), and their environment. As a result of their internal focus, they become inconveniently aware of their fear and arousal, and of possible flaws in their appearance and behaviour. Lack of outward-directed attention may result in actually unskilled and even unkind behaviour. Moreover, lack of externally focused information processing will bring social phobics to rely on their own (negative) impressions to evaluate social situations and their own behaviour. Consequently, once developed dysfunctional beliefs will not be disconfirmed (see Clark and Wells, 1995). There is a growing body of research supporting the hypothesized relationship between heightened SFA and social anxiety/phobia (e.g. Burgio *et al*., 1986; Daly *et al*., 1989; Hope *et al*., 1990; Alder *et al*., 1992; Woody, 1996; see also the review of Hope *et al*., 1989).

Fear of blushing is a prominent complaint in many social phobics (Edelmann, 1990). Heightened SFA might be an even more crucial maintaining factor for social phobics with fear of showing bodily symptoms, notably blushing. It has been found that salient physiological arousal serves to focus attention inwards (Fenigstein and Carver, 1978; Wegner and Guiliano, 1980) and heightened SFA, in its turn, increases subjects' awareness of physiological reactions (see Scheier *et al*. (1983) for a review), intensifies such reactions, and causes a tendency to overestimate the intensity of such arousal (Mandler *et al*., 1958). From this perspective it is important to note that blushing is an especially salient physiological reaction (feeling warm cheeks). Therefore, blushing, even more than other physiological reactions, is expected to heighten SFA. Moreover, blushing is usually clearly observable to others, which may further increase SFA. A study by Bögels *et al*.

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(1996) confirmed the hypothesized relationship between SFA and erytrophobia; SFA directed to one's arousal significantly predicted fear of blushing.

Given the potentially detrimental effects of heightened SFA on fear, arousal, cognitions and performance, it has been suggested that attention manipulation could be helpful in the treatment of anxiety (e.g. Wells and Matthews, 1994). Direct training in task-concentration ('attention training') has been frequently applied in the context of sports (e.g. Singer *et al*., 1991a; Boutcher, 1992). Training sportsmen to focus their attention on the task and to exclude themselves for external distracters (e.g. spectators) or internal distracters (e.g. awareness of fatigue, self-doubt) has been found to improve sport performance (Singer *et al*., 1991b). Attention training is also applied for the treatment of test anxiety; focusing attention on the task reduced text anxiety and increased test performance (e.g. Ribordy *et al*., 1981; Wise and Haynes, 1983). Furthermore, Wells (1990) successfully treated a patient with a panic disorder by teaching the patient to increase the executive control over attention outside of anxiety episodes.

The question arises whether it is possible to teach social phobics with fear of blushing to explicitly focus their attention outwards, and so reduce their (fear of) blushing. To explore this issue we developed a therapy called task concentration training (TCT), which aims at redirecting erytrophobics' attention away from the self and to the (social) task during blushing. TCT consists of three phases: (1) getting insight in attentional processes and the effects of heightened SFA; (2) focusing attention outward instead of inward in non-threatening situations; and (3) focusing attention outward in threatening situations. The treatment proposed differs from the attentional training developed by Wells (1990) in two ways. Firstly, in Wells' procedure the patient is taught to focus attention outside (e.g. on neutral sounds), whereas in TCT patients are taught to focus attention on the task at hand. Secondly, practising attentional focus in threatening situations (phase 3) is not part of Wells' procedure. The form of the training is described below.

TASK CONCENTRATION TRAINING

Rationale

At the start of TCT it is explained to patients how blushing and SFA mutually reinforce each other and, as a consequence, cause anxiety, negative self-thoughts, problems in concentration, and unskilled behaviour. Then, patients are taught that by redirecting the attention outward (to the task and environment) they will be able to break through the vicious circle and thereby cope with blushing.

Registration of the Direction of Attention in Blushing Situations

In the first phase of therapy, registrations are made in the form of diaries. Patients are instructed to indicate from day to day in which situations blushing has appeared, how anxious they were, and to estimate the percentage of concentration that was directed towards the self, towards the task, and towards the environment at that moment. SFA is defined as attention towards aspects of the self which are not necessary to perform the task, such as one's arousal (am I blushing?), emotions (do I feel anxious?), private self (how am I doing?) or public self (how do others see me?). Special attention is paid to the difference between task and environment. Task-focused attention is defined as attention towards the behaviour that is required in the specific situation, including attention for the other (relevant) persons in that situation. Environment-focused attention is focused on those aspects of the environment which are not necessary to perform the task. For example, a painting is the environment when a person is talking with another person, but becomes the task when the conversation is focused on the painting itself. The difference between task-focused and environment-focused attention is important, since many patients know from experience the distracting effect of focusing the attention on the environment during blushing (for example watching the T.V. for a moment or blowing one's nose when blushing), which may help for a moment to reduce the blushing reaction, but does not help to cope with blushing in the long term. By registrating their attentional focus patients are encouraged to study their processing routines in problematic situations (described as 'meta-cognitive profiling' by Wells and Mathews, 1994, p. 306). In this way, patients obtain insight into the way they divide their attention in situations that elicit a blush. Later on in therapy these diaries are also used for homework assignments.

TCT in Therapy Sessions

In this part of the therapy, concentration exercises, which are built up hierarchically, are practised during the sessions. We start with a listening

exercise. Therapist and patient sit with their backs against each other (so that no eye contact takes place) and the therapist tells the patient a neutral, 2 min story (e.g. about his holiday). The patient is instructed to concentrate on the story (task) and to summarize it afterwards. He also has to estimate the percentage of attention that was directed towards the self, towards the task, and towards the environment, while listening. Furthermore, the patient will estimate the percentage of the story he was able to summarize and so will the therapist. This procedure is continued, every new exercise growing more complex: during the following listening exercise, eye contact takes place; next, the patient must distract himself while listening by thinking about blushing (and try to re-concentrate on the story) and finally the content of the story is about blushing. The effect of the more complex (blush-inducing) elements in the exercise is that most patients first become more self-focused as a result, but are able to re-focus on the task after some exercise. Also, the rehearsal of the complex exercises helps them to increase resistance to distraction by elements associated with blushing. Each listening exercise is repeated until the percentage of concentration directed towards the task is at least 51% (more than half of the total). In the same way as the listening exercises are practised, speaking exercises are carried out. Here, the patient will tell stories to the therapist, while concentrating on the task (speaking and observing whether the therapist listens and understands what he is telling). These exercises are built up in the same hierarchical way.

TCT in Non-Threatening Situations

In this part of the therapy, the patient is instructed to concentrate on the task in non-threatening, everyday situations. An example is to walk through a (quiet) forest and pay attention to all aspects of the forest (visual, auditory, olfactory, kinesthetic) as well as to the own body while walking. Patients are instructed to focus attention first on one aspect at a time, and then on all aspects together (integrated attention). Another example of an exercise is to watch the news in a very concentrated manner and summarize it afterwards. A non-threatening social exercise for many erytrophobics is to have a telephone call and summarize it afterwards. These exercises are generally given for homework.

TNT in Threatening Situations

In order to practice task concentration in fearful situations, a list is drawn up containing approximately 10 social situations in which the patient tends to blush and that are relevant in the patient's life. This list is of an hierarchical set-up, the first item being the least fearful. Its goal is to employ task concentration in each situation and to quickly re-focus attention to the task after being distracted as a result of (thinking about) blushing. The exercises are built up hierarchically, since in extremely fearful situations the fear absorbs most patients' attention, and, as a result, directing the attention to the task is more complex. If possible, situations are first practised in a session, whereafter they will be carried out as homework and filled out in the diaries. Any difficulties that may have arisen are discussed during the next session.

COGNITIVE THERAPY

After TCT, patients receive cognitive therapy (CT). The rationale for this second treatment is that TCT is considered as a coping strategy for excessive blushing, whereas CT intervenes on patients' basic beliefs about blushing. Since dysfunctional beliefs about blushing are hypothesized to play an important role in the maintenance of fear of blushing (Edelmann, 1990) modification of these beliefs by means of CT would also be necessary to overcome fear of blushing. Although the two procedures could also be integrated, we put them after each other in order to be able to assess their separate effects. CT was loosely based on the method of Beck *et al*. (1985). Since the focus of this article is on the possible contribution of TCT for erytrophobia, the elements of CT will be discussed only briefly. The therapy starts with an explanation of the rationale; patients are informed about the fear-evoking and fear-maintaining nature of dysfunctional beliefs about blushing and to its catastrophic consequences. Central dysfunctional thoughts are explored by means of cognitive diaries, in which patients write down the thoughts they had at moments when they were afraid of blushing or actually blushed. These thoughts are then challenged through the so-called Socratic dialogue: by means of posing specific questions, patients are stimulated to think about the tenability of their thoughts and to generate possible alternatives. These thoughts are then tested in everyday life by means of behavioural experiments; small empirical tests set up by the therapist and the patient in order to (dys)confirm predictions about the consequences of blushing. For a more detailed overview of CT for erytrophobia, we refer to

Bögels (1994) and Scholing and Emmelkamp (1993).

DESIGN, ASSESSMENT AND PROCEDURE

The effects of TCT and CT are described on the basis of our experiences with the first two patients with erytrophobia who attended for this treatment. The patients, therefore, were a random selection of our sample of erytrophobics. (For reasons of privacy, the background data of the persons concerned are slightly changed, except for clinically relevant aspects.) They were treated in the context of a larger treatment-outcome study, in which the (differential) effects of TCT and CT for fear of blushing, trembling and sweating are investigated. It should be noted that these are not cases of single experimental designs, but merely descriptions of clinical findings with relevant research data.

The treatment consisted of six sessions of TCT and six sessions of CT for the first patient. The second patient received eight sessions of TCT and eight sessions of CT, since we felt that six sessions of each procedure did not give the therapist enough time. Sessions lasted 1 h and were held once a week. Before treatment, between TCT and CT, after treatment, at 1-month follow-up, and at 1-year follow-up, assessments took place. The first two authors served as therapists.

The various dimensions of blushing phobia were assessed by the five subscales of the Blushing Questionnaire (BQ; see Bögels *et al*. 1997). The subscale 'fear of blushing' measures, by means of Visual Analogue Scales (VAS), to what degree respondents experience blushing as a problem and are afraid to blush. The subscale 'blushing cognitions' consists of positive and negative cognitions about blushing, which are given a proportional score of 0% (do not believe it at all) to 100% (totally convinced). The next subscale 'blushing reactions' gives an indication of disturbances in mental processes as a result of blushing, such as black-outs or problems in concentration. The fourth subscale 'avoidance of blushing' measures to what extent strategies are used to avoid or hide blushing, such as using make-up or avoiding eye contact. Patients were also asked to estimate how often they blushed during the past week.

Research concerning the BQ so far indicated that the reliability of the subscales is acceptable (Cronbach's alpha's ranging from 0.62 to 0.96). All subscales except Positive Beliefs have positive correlations with social anxiety, as measured by the SPAI, FQ-social phobia and FNE (correlations range from 0.28 to 0.63, $p < 0.01$, $n = 191$). Positive Beliefs about blushing were uncorrelated with other aspects of blushing. Also, Positive Beliefs were unrelated to the SPAI, FQ-social phobia or FNE (see Bögels *et al*., 1997).

In order to assess changes in generalized social phobia the Social Phobia and Anxiety Inventory (SPAI; Turner *et al*., 1989; Dutch translation Scholing *et al*., 1995), the social phobia subscale of the Fear Questionnaire (FQ; Marks and Mathews, 1979), and the Fear of Negative Evaluation scale (FNE; Leary, 1983) were employed.

To examine the influence of TCT and CT on the process of cognitive change, the four main dysfunctional beliefs of each patient with regard to their bodily symptoms were assessed by the therapist before the start of treatment. Patients indicated on VASs (0 = do not believe it at all, 100 = totally convinced) to what degree they were convinced by these four beliefs before and after each treatment session. In this manner, we were able to establish possible cognitive changes between and within sessions.

TWO CASES

Case 1

Steve is a 26-year-old male medical student. He was referred to our outpatient unit for erytrophobia treatment by the student counsellor. He remembers having this complaint since childhood but he became really troubled by it during medical school and specifically during his traineeship in a hospital. Contact with patients and especially physical contact and taking a sexual anamnesis made him blush. When he was being observed by a supervisor he felt so self-conscious that he blushed all the time. As a result of his blushing and heightened self-awareness he was often unable to perform his medical actions correctly, and displayed poor communication skills towards patients, which made him doubt his future as a doctor. In the first session, Steve was very talkative and seemed a spontaneous person. His frequent blushing was remarkable. Steve's main dysfunctional beliefs concerning blushing were: (1) when I blush, I betray myself, even if I have nothing to hide; (2) when I blush, it looks as if I'm stupid; (3) when I blush in the presence of patients, I'm a bad doctor; (4) when I blush, people think I'm a tense person.

Steve was enthusiastic about the explanation that SFA influences concentration, bodily symptoms, and feelings of nervousness. Through his homework (diaries) he discovered that for a great deal of time he was busy worrying about blushing and turning his attention inwards. Knowing this, he was motivated to practice turning his attention outwards, and followed his exercises with success. After TCT Steve has learned to concentrate on his medical actions instead of his blushing and, as a result, performs better as a doctor. He reports that he now makes eye contact with patients and concentrates on their answers when taking their sexual history, something he did not do before. By turning his attention outwards, he also notices that patients take him very seriously as a doctor, even when he blushes. Steve reports that he is much less afraid of blushing now. It is his opinion that concentrating on the task is an effective and practical coping style in fearful situations.

Case 2

Ann, a 35-year-old housewife with two children, was referred for treatment of erytrophobia. She had suffered from a fear of blushing since her adolescence; she recalled that people used to call her 'tomato'. Before she married she worked in a shop, but she gave up the job because of her blushing problem. Now that her children are growing up she is forced to meet other people, which has increased her fear of blushing. She would also like to start working again, but her fear of blushing prevents her. During the first conversation she blushed frequently. Her main dysfunctional beliefs concerning blushing were: (1) when I blush, I'm the centre of everyone's attention; (2) because I often blush, people will think I'm insecure; (3) when I blush people will see me as incapable and will not take me seriously; (4) when I blush, I give away my feelings and make a wrong impression.

Ann recognized the rationale of TCT immediately, giving examples of how SFA troubled her. The first exercise in task concentration in non-threatening situations had an immediate effect on her; she reported that she was much more aware of her environment and her memory for details (names, for example) improved. TCT in threatening situations reduced her fear of blushing. After TCT Ann no longer feels 'locked in herself' and no longer blocks when she blushes. Behaviour changes have taken place; she has started to make jokes about her blushing, talks with others about her problem, and plans to follow a course. Also, spontaneous cognitive changes can be observed as a result of TCT; Ann discovered, by re-directing her attention outward, that people do not take much notice of her blushing, provided that she continues to perform her task.

QUESTIONNAIRE RESULTS

Figures 1 and 2 show the decrease in conviction of the central dysfunctional thoughts about blushing for both cases. Contrary to expectations, a substantial decrease in the conviction of both patients' idiosyncratic dysfunctional beliefs occurred during TCT. In Table 1 the results of the self-report assessment are presented. During TCT as well as during CT both patients made substantial progress on all aspects of erytrophobia (fear of blushing, problems in concentration, physical reactions, blushing cognitions, and avoidance behaviour). Moreover, patient 1 improved on the general social phobia measures: FQ, SPAI, and FNE during therapy. At the 1-month and 1-year follow-up, the results were maintained. A year after treatment, patient 2 was also improved on the general social phobia measures FQ and FNE.

DISCUSSION

The results of the case studies suggest that TCT, which promotes external focus, can effectively reduce fear of blushing. These data are consistent with the view that heightened SFA is associated with erytrophobia. Although the treatment progress of these patients is promising, especially when one takes into account that fear of blushing is generally difficult to treat (Scholing and Emmelkamp, 1993; Bögels, 1994), the results should be interpreted with some caution. The case-studies did not control for possible spontaneous recovery or placebo responses, nor for the order in which the therapies (TCT and CT) were presented. Controlled outcome studies are needed to investigate whether TCT is effective in a larger sample of patients and to compare the results of TCT with existing cognitive-behavioural treatment for fear of blushing.

A remarkable outcome of the present study is that the conviction of dysfunctional beliefs about blushing strongly decreased during TCT, as no discussions took place concerning patients' beliefs. Clark and Wells (1995) stated that social phobics, as a result of being self-focused, use their own (negative) impression of themselves as main evidence for the idea that others evaluate them in a

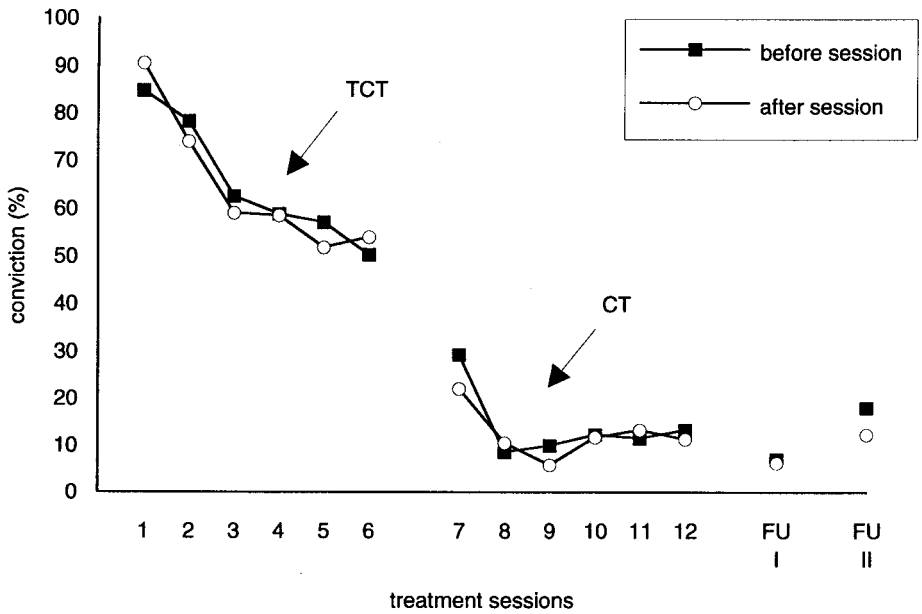

Figure 1. Main change in the conviction score on the four idiosyncratic dysfunctional beliefs about blushing for case 1. Thoughts were scored before and after each treatment session, at 1-month follow-up (FUI) and 1-year follow-up (FUII). TCT took place in sessions 1–6, CT in sessions 7–12

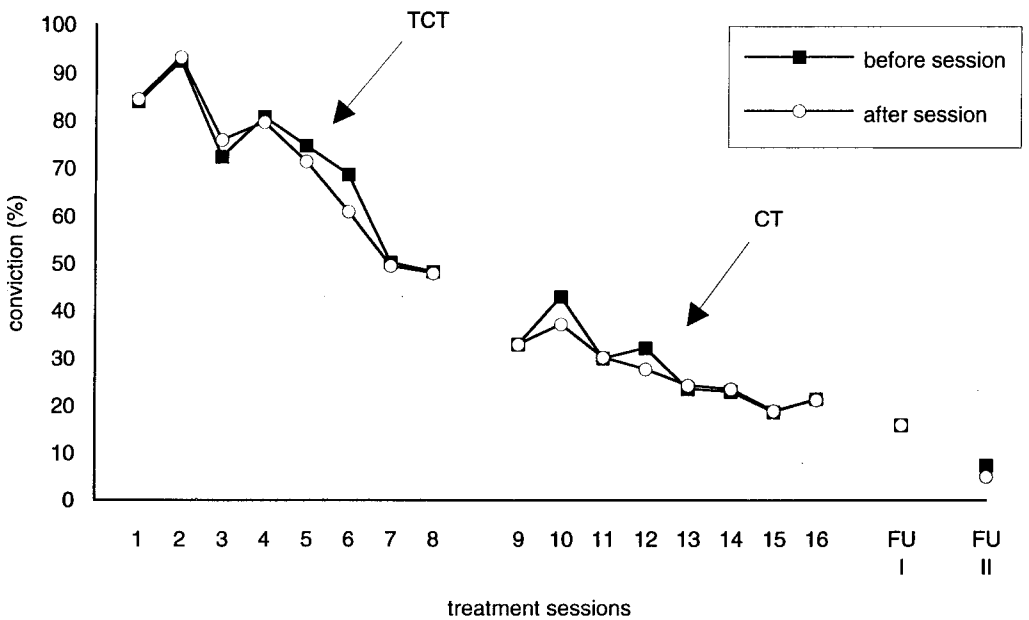

Figure 2. Mean change in the conviction score of the four idiosyncratic dysfunctional beliefs about blushing for case 2. Thoughts were scored before and after each treatment session, at 1-month follow-up (FUI), and 1-year follow-up (FUII). TCT took place in sessions 1–8, CT in sessions 9–16

negative way. Re-directing attention outwards may help social phobics to base their views of how others evaluate them when blushing on the objective behaviour of others instead of on their self-impression. Consequently, such objective observations may force them to modify their negative beliefs. In line with our findings, a recent study by Wells *et al*. (1997) demonstrated similar

Table 1. Treatment outcome data of both cases on pretest, within (between TCT and CT), posttest, 1-month follow-up (FUI) and 1-year follow-up (FUII)

	Case	Pre	Within	Post	FUI	FUII
Main phobia (0–8)[1]	1	5	3.5	3	3.5	3.5
	2	6	4	3.5	4	3.5
FQ—social phobia (0–40)[1]	1	21	15	11.5	11	9.5
	2	21	20	15	19	12
SPAI—social phobia (0–128)[2]	1	72	45	46	42	40
	2	66	81	61	65	59
FNE (0–48)	1	42	32	26	29	8
	2	40	47	39	40	24
Blushing Questionnaire						
Fear of blushing (0–100)[3]	1	82	missing	29	24	23
	2	85	75	30	36	21
Blushing reactions (0–4)[4]	1	3.0	2.3	1.0	1.0	0.8
	2	2.7	2.3	1.7	1.5	1.0
Positive beliefs (0–100)[3]	1	33	24	17	31	31
	2	24	47	38	62	60
Negative beliefs (0–100)[3]	1	76	33	19	18	19
	2	72	37	13	14	11
Avoidance (0–4)[4]	1	2.0	0.8	0.3	0.4	0.2
	2	2.2	2.0	1.5	1.8	1.0
Blushing frequency of past week	1	50	20	12	10	24
	2	700	105	10	35	10

[1]Mean fear and avoidance score.
[2]The first version of the Dutch SPAI—social phobia ranges from 0–128, since the items are scored on a 0–4 scale instead of a 1–7 scale.
[3]Mean VAS score.
[4]Mean items score.

cognitive changes as a result of attentional training in two patients with a panic disorder and one patient with social phobia. Since TCT, compared to CT, is a relatively simple treatment which can easily be taught to therapists and to patients, it may be valuable in completing the armament of techniques available.

An important direction for further research is to experimentally manipulate the focus of attention so as to investigate how attentional focus influences (fear of) blushing. Future research on TCT may also focus on the application of TCT in other types of social phobia.

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