Chapter 25

Mindfulness-Based Therapy for Social Anxiety Disorder

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Social anxiety disorder (SAD) is one of the most common anxiety problems, in adults as well as youth, with lifetime prevalence rates in the USA and Europe estimated between 5–12% (Bijl, Ravelli, & van Zessen, 1998; Kessler et al., 2005). This high prevalence of social anxiety has stimulated research on the possible causes of social anxiety, leading to the development of scientifically validated therapeutic interventions. One such intervention, cognitive behaviour therapy (CBT), has been found to be highly effective in reducing social anxiety, with medium- to large-sized clinical improvements (Rodebaugh, Holaway, & Heimberg, 2004). Although such results are impressive, it has also been argued that a considerable number of people suffering from SAD show limited or no improvement following CBT (Rodebaugh et al., 2004; Hofmann & Bögels, 2006). Therefore, it remains imperative to further develop existing treatments and discover and test new interventions that have the potential to be more effective or to help those people who show limited or no improvement by CBT.

In this chapter, we first discuss attentional processes that are likely one of the main causes or maintaining factors of SAD, and we briefly explain how different training programs that explicitly target these attentional processes have recently been developed. The main focus of this chapter is on one of these training interventions, namely mindfulness training (Kabat-Zinn, 1990). We demonstrate that there is now convincing research suggesting that being mindful and participating in mindfulness training can indeed reduce social anxiety. Next, we give a description of a mindfulness intervention in patients with SAD. Finally, in the discussion, we address remaining issues, open research questions, and future perspectives.

Social Anxiety. DOI: 10.1016/B978-0-12-394427-6.00025-X

SOCIAL ANXIETY DISORDER AND ATTENTIONAL PROCESSES: THEORY AND EXPERIMENTAL EVIDENCE

Cognitive models and theories of social anxiety stress the importance of cognitive processes in the development and maintenance of SAD. For instance, people suffering from SAD set unrealistic standards and goals when they are in social situations, are likely to evaluate their performance as poor, and overestimate the negative consequences of social events (e.g., Hofmann, 2007; Schenkler & Leary, 1982; Stopa & Clark, 1993; Voncken, Bögels, & de Vries, 2003). According to the two most influential cognitive models of SAD (Clark & Wells, 1995; Rapee & Heimberg, 1997), maladaptive attentional processes are at the core of these negative cognitions. Both models assume that socially anxious individuals who engage in social situations direct their attention to themselves, leaving only limited attentional resources for the task at hand. This process of self-focused attention involves the detailed monitoring and observation of oneself, and results in an increased awareness of one's feelings, behaviour, and physiological responses. As such, the socially anxious individual builds a negative internal representation of how he or she is seen by the audience, which will in turn further augment stress and anxiety, and hamper performance (for reviews, see Bögels & Mansell, 2004; Schultz & Heimberg, 2008; Spurr & Stopa, 2002). The idea that increased self-focused attention is critically involved in the maintenance of social anxiety is also supported by empirical findings. Several studies have illustrated that self-focused attention can be manipulated by adding a mirror or a video camera to the experimental setting, and that such manipulations can result in increased levels of anxiety and/or worse performance on social tasks (e.g., Bögels & Lamers, 2002; Woody, 1996; Zhou, Hudson, & Rapee, 2007, but see also, for example, Bögels, Rijsemus, & de Jong, 2002; Jakymin & Harris, 2012; Voncken, Dijk, de Jong, & Roelofs, 2010).

In addition to the detrimental effects of exaggerated self-focused attention, Rapee and Heimberg (1997) further proposed that socially anxious individuals attend more to external signals of social threat than non-anxious individuals. This attentional bias or vigilance for social threat makes socially anxious individuals more prone to perceive negative cues in their environment, such as people in an audience yawning or looking disapproving. There are several studies illustrating that socially anxious individuals indeed attend more to social threat than non-anxious individuals (Bar-Haim, Lamy, Pergamin, Bakermans-Kranenburg, & van IJzendoorn, 2007; but see Van Bockstaele et al., in press). For instance, using a dot-probe task, Mogg, Philippot, and Bradley (2004) found that participants suffering from SAD were faster to detect targets on the location of angry faces than on the location of happy faces, while no such difference was found for non-anxious controls.

In sum, both on theoretical and empirical grounds, there is reason to believe that attentional processes are critically involved in the maintenance of social anxiety. Consequently, several lines of research have focused on changing

these maladaptive attentional processes in order to reduce social anxiety. First, early findings in the field of cognitive bias modification suggest that attentional bias can be changed through attentional bias modification training, and that this change in attentional bias in turn results in decreased social anxiety (e.g., see Amir, Weber, Beard, Bomyea, & Taylor, 2008; Amir et al., 2009; Schmidt, Richey, Buckner, & Timpano, 2009). However, more recent studies have struggled to replicate these findings (e.g., Boettcher, Berger, & Renneberg, 2012; Carlbring et al., 2012; Julian, Beard, Schmidt, Powers, & Smits, 2012; Neubauer et al., 2013; for a review, see Van Bockstaele et al., in press), which underlines the need for additional research on the possible causal role of attentional bias in social anxiety and the potential of attentional bias modification programmes as successful interventions against social anxiety (Clarke, Notebaert, & MacLeod, 2014).

A second intervention that has been shown to reduce social anxiety by changing attentional processes is attention training or task concentration training. In this type of training, individuals are taught to focus their attention on the task at hand and on the environment, hence reducing self-focused attention. In three early studies, Bögels, Mulkens, and de Jong (1997), Wells, White, and Carter (1997), and Wells and Papageorgiou (1998) showed in a number of case studies that focusing attention on the task or on external cues can help to reduce fear of blushing and social anxiety. In a more systematic study, Mulkens, Bögels, de Jong, and Louwers (2001) confirmed these early findings in a small sample of advertisement-recruited patients with SAD and specific fear of blushing. These authors found that task concentration training effectively reduced fear of blushing. The most convincing evidence for the effectiveness of task concentration training comes from a larger study by Bögels (2006). She tested task concentration training in a relatively large sample (n = 65) of referred patients with SAD and specific fear of showing bodily symptoms, such as sweating, trembling, and blushing. She found that task concentration training not only reduced self-focused attention, but also resulted in a medium sized reduction in social anxiety and a large reduction (Cohen's $d = 1.2$; Cohen, 1992) in fear of showing bodily symptoms. Hence, it seems that training individuals to focus their attention on the task or on external cues leads to reductions in social anxiety.

A third therapeutic intervention that is argued to target maladaptive attentional processes is meditation, and, more specifically, mindfulness meditation. Mindfulness is a meditation technique that can be defined as non-judgemental attention to present experiences (Kabat-Zinn, 1990). According to Bishop et al. (2004), the two key components of mindfulness are (1) the improved self-regulation of attention, which involves sustaining as well as switching attention, and (2) an openness for and acceptance of any current experience. Similarly, Lutz, Slagter, Dunne, and Davidson (2008) argue that mindfulness contains aspects of focused attention mediation, which is—among other things—thought to improve sustained attention on a target object as well as disengaging attention away from unwanted distractions and refocusing attention on the target object

(attentional shifting). Improving or developing such attentional control skills is argued to improve emotion regulation (Gross, 1998; Wadlinger & Isaacowitz, 2011), and thus improve psychological well-being.

The idea that mindfulness or meditation techniques that are incorporated in mindfulness are associated with attentional control is also supported by empirical evidence. For instance, Walsh, Balint, Smolira, Fredericksen, and Madsen (2009) found that trait mindfulness (as measured by the Mindful Attention Awareness Scale; MAAS: Brown & Ryan, 2003) was positively correlated with self-reported attentional control. Jha, Krompinger, and Baine (2007) investigated changes over time in attentional subcomponents in experienced meditators who went on an intensive meditation retreat, naive participants who participated in a mindfulness program, and control participants who never meditated. They found that mindfulness training resulted in improved orienting skills relative to the other two groups, and that participants in the meditation retreat group outperformed both other groups on exogenous stimulus detection or alerting (see also Chambers, Lo, & Allen, 2008; Lutz et al., 2009; Moore, Gruber, Derose, & Malinowski, 2012; Rael Cahn & Polich, 2009, Slagter et al., 2007; Tang et al., 2007; but see Anderson, Lau, Segal, & Bishop, 2007).

In turn, several studies have addressed the relation between trait mindfulness and social anxiety. Rasmussen and Pidgeon (2011) found that trait mindfulness was negatively correlated with self-reported social anxiety ($r = -.35$), indicating that higher levels of trait mindfulness were associated with lower levels of social anxiety (see also Brown & Ryan, 2003; Dekeyser, Raes, Leijssen, Leysen, & Dewulf, 2008; Schmertz, Masuda, & Anderson, 2012). In an experimental design, Brown, Weinstein, and Creswell (2012) measured trait mindfulness, anxiety, and cortisol stress responses in unselected participants who performed the Trier Social Stress Test (TSST: Kirschbaum, Pirke, & Hellhammer, 1993). In line with the results of the correlational studies mentioned above, they found that high trait mindful participants had a smaller increase in (social) anxiety and a smaller cortisol response during social stress than low trait mindful participants. In sum, these studies indicate that higher levels of mindfulness are associated with lower levels of social anxiety. Thus, having established that mindfulness meditation techniques influence the same attentional processes that are assumed to be critically involved in the development and/or maintenance of social anxiety, and that higher levels of mindfulness are associated with lower levels of social anxiety, the crucial question is whether mindfulness training can reduce social anxiety.

EVIDENCE OF MINDFULNESS-BASED INTERVENTIONS IN SOCIAL ANXIETY DISORDER

In general, mindfulness-based therapy is moderately effective in treating mood and anxiety disorders (Hofmann, Sawyer, Witt, & Oh, 2010; Khoury et al., 2013). Bögels, Sijbers, and Voncken (2006) were among the first to

address the impact of mindfulness training on social anxiety. In this pilot study, they selected a small group of participants suffering from SAD (n = 9). Following a nine-week intervention that included mindfulness meditation practices as well as task concentration training, they found that participants reported less self-focused attention. More importantly, participants also reported lower levels of social anxiety and less fear of negative evaluation (with *d* for pre-treatment/post-treatment contrasts between 0.82 and 0.85), and these changes were maintained at a two-month follow-up (*d* for pre-treatment/follow-up contrasts between 0.98 and 1.30). In another early pilot study, Ossman, Wilson, Storaasli, and McNeill (2006) included mindfulness techniques in an acceptance and commitment-based treatment for participants with SAD (n = 12). They found that their intervention reduced self-reported social anxiety ($d = 0.83$), and that this reduction was even stronger at a three-month follow-up. Although the results of these early studies are indicative, it should be noted that the designs of these studies do not allow for very strong conclusions. Both studies only used a very small sample, did not include control groups, and included other therapeutic interventions besides mindfulness meditation.

Still, in line with the results of these early pilot studies, several other reports have meanwhile confirmed that mindfulness indeed causally influences social anxiety. For instance, Cassin and Rector (2011) found that participants suffering from SAD who were subjected to a very short mindfulness induction of only ten minutes reported less distress ($d = 0.97$) and more positive affect ($d = 0.92$) during a social rumination task than a control group. In a similar vein, Kemeny et al. (2012) found in non-anxious individuals that an intensive, eight-week meditation training that included mindfulness exercises reduced ruminative thinking in the TSST. Kocovski, Fleming, and Rector (2009) assessed the effects of a twelve-week mindfulness and acceptance-based group therapy in a sample of patients suffering from SAD. Their intervention resulted in significant and large reductions on different social anxiety measures (*d*s between 1.00 and 1.09), and these changes were maintained at three-month follow-up (*d*s between 1.00 and 1.17). Finally, in a study by Goldin and Gross (2010, the same clinical data are also reported in another paper which we will not discuss here), individuals with clinical levels of SAD participated in an eight-week Mindfulness-Based Stress Reduction (MBSR) programme. Following this training, participants showed significant reductions in self-reported social anxiety ($\eta^2_p = .59$) and significant increases in self-esteem ($\eta^2_p = .51$). Furthermore, they also showed increased neural activity in brain regions known to be crucial for the deployment of attention. This last result suggests that mindfulness indeed improves attentional control, which in turn results in improved emotion regulation and decreases in anxiety. However, it should be noted that neither Kocovski et al., nor Goldin and Gross included control groups, so any changes in social anxiety in these studies may have been due to demand effects.

This lack of control groups was adequately addressed in a study by Jazaieri, Goldin, Werner, Ziv, and Gross (2012, the same clinical data are also reported in

two other papers which we will not discuss here). In addition to socially anxious participants following a MBSR programme, these authors also included a group of socially anxious participants who followed an aerobic exercise course and a waiting list control group. In line with previous results, they found that MBSR effectively reduced social anxiety (estimates of η^2_p between .41 and .75) and increased well-being (estimates of η^2_p between .44 and .50), and these changes were maintained at a three-month follow-up. However, they found no significant differences between the MBSR group and the aerobic exercise group, with both experimental groups showing similar improvements relative to the waiting list control group. These results may suggest that specific mindfulness meditation techniques are not necessarily crucial for the reduction of social anxiety, as the same clinical results can be obtained with physical exercise. Still, the somewhat surprisingly large effect of physical exercise on social anxiety does not negate the finding that mindfulness training also effectively reduced social anxiety.

In a last line of studies, the effectiveness of mindfulness-based therapies as a means to reduce social anxiety has been compared to conventional interventions for social anxiety, such as CBT. Koszycki, Benger, Shlik, and Brawejn (2007) assigned participants diagnosed with generalized SAD to either twelve weeks of CBT group therapy or to an eight-week MBSR programme. Participants in the MBSR-group showed moderate to large reductions in both self-reported and clinician-rated measures of social anxiety (*d*s between 0.65 and 1.48). However, the reductions in social anxiety in the CBT group were significantly larger (*d*s between 1.67 and 2.11) than those of the MBSR-group, suggesting that CBT remains the best treatment for generalized SAD. Similar findings are reported by Piet, Hougaard, Hecksher, and Rosenberg (2010). These authors compared the effects of group CBT and mindfulness-based cognitive therapy on social anxiety in a sample of young adults. Both treatments resulted in medium to large decreases on measures of social anxiety (*d*s between 0.66 and 1.27 for the CBT group and between 0.38 and 0.90 for the mindfulness-based cognitive therapy group), with no significant differences between the groups. However, the effect sizes in the CBT group were numerically larger than in the mindfulness group, and given the small sample sizes (n = 11 for both groups at the post-intervention assessment), the lack of statistical significance in the between-group comparisons is not surprising. After the first intervention, participants also completed the other treatment (i.e., participants who started with the mindfulness-based cognitive therapy also completed the CBT sessions, and vice versa). In line with the idea that CBT is a more effective intervention against SAD, only the group who followed CBT as the second intervention showed further clinical improvement following this second intervention.

Two recent studies comparing mindfulness with CBT yielded different results. Kocovski, Fleming, Hawley, Huta, and Antony (2013) assigned a large sample of 100 participants with SAD to either a 12-week mindfulness and acceptance-based group therapy, a 12-week CBT group therapy, or a waiting list control group. While there was no improvement in social anxiety measures in the

waiting list control group, both the mindfulness group and the CBT group showed significant reductions in social anxiety following therapy ($d = 1.32$ for the mindfulness and acceptance-based therapy group; $d = 1.31$ for the CBT group). There were no significant differences between the two therapy groups, indicating that mindfulness and CBT had a similar impact on social anxiety. Finally, in a recent and to date unpublished study, Bögels and Voncken (in prep.) closely replicated the findings of Kocovski et al. (2013). They assigned referred patients suffering from SAD (n = 76) either to an eight-week mindfulness training that also contained elements of task concentration training or to eight weeks of cognitive therapy. Mindfulness and cognitive therapy had a similar beneficial effect on the primary outcome measures of social anxiety (d of combined groups = 2.00) and self-focused attention (d of combined groups = 0.99), although cognitive therapy was more effective in changing negative cognitions and improving self-image, and in reducing secondary psychopathology. Results were maintained or further improvement occurred up to the two-year follow-up, indicating that the effects of a short, group-based, mindfulness training are maintained in the long-term, in the absence of further treatment. Patients with comorbid personality disorders were found to benefit more from cognitive therapy, whereas patients without personality disorders benefited more from mindfulness training.

In sum, there is convincing evidence for the idea that mindfulness is an effective intervention against social anxiety, with generally large effect sizes of clinical change. Although comparisons with traditional psychotherapeutic interventions have yielded somewhat mixed results, mindfulness training seems especially promising because it may be more easily accessible than, for instance, CBT. Therefore, it seems fruitful to further investigate the use of mindfulness in SAD. In the following section, we describe the general outline of a protocol that could be used for such future research.

MINDFULNESS-BASED TASK CONCENTRATION FOR SOCIAL ANXIETY DISORDER: AN EIGHT-WEEK PROTOCOL

General elements

In this section we will describe the mindfulness program for SAD of which the pilot data were discussed in the previous section (Bögels et al., 2006; Bögels & Voncken, in prep.). Task concentration training practices, an attention training that was found to be effective for SAD, were added and integrated in the mindfulness framework. The first five sessions follow roughly the MBCT program of Segal, Williams, and Teasdale (2002; 2013). In session 6 and 7 task concentration training practices of the protocol described in Bögels (2006) are added, and session 8 is again highly similar to MBCT session 8. As we developed this program to compare its effects with cognitive therapy, we left out the cognitive therapy elements of MBCT. Also, we removed the parts about depression and rephrased them into SAD.

The protocol consists of eight two-hour group sessions and a two-hour follow-up session eight weeks later. We have also developed an individual version, which consists of eight one-hour sessions plus one follow-up session eight weeks later. The individual version follows roughly the group program, but with shorter meditation practices and shorter inquiries. The individual version can be used for pragmatic reasons (for example not being able to organize a group because of too few participants) or because a patient does not want to follow the training in group format. In this chapter, we will describe the group format. Meditations are usually followed by an inquiry, in which all group members are invited to share experiences during the meditation. By skillfully asking questions about these experiences, the trainer can highlight central elements of the mindful attitude. Segal, Williams, and Teasdale (2013) dedicate an entire chapter to the process of inquiry, which we strongly recommend to read. Homework is given that takes about one hour a day, six out of seven days, over the eight weeks of the training. At the end of every session participants receive handouts including a homework description and diaries to register their homework experiences. Also, audio-recordings as well as the texts of the meditations are distributed, as in Segal et al. (2002; 2013). Sharing experiences of the homework of the past week is an important recurrent element in each training session. Usually homework experiences are first shared in dyads. Then, group members are invited to share some of the things they have discussed or discovered in the dyad in the entire group if they choose to. In the following section we will briefly mention the program parts that are highly similar to the MBCT program of Segal et al. (2002; 2013), and describe the newer parts, that is, the adaptations of the protocol to SAD, and how the task concentration practices are integrated in the mindfulness program, in more detail.

Preparation

In the preparation session, we ask about previous experience with meditation or yoga, we give information about mindfulness and task concentration training, and how the program can help for SAD. We also give information about the size and composition of the group. If there is marked anxiety about speaking in groups, we explain that participants can choose whether or not to speak in the entire group (see Session 1 below for further information). We do a short sitting practice with a focus on the breath, and we show the meditation room and materials. How much information we ask about the complaints of the patient and his or her background depends on whether or not a routine clinical assessment has already taken place. We identify five idiosyncratic target social situations related to the patient's central social fears, such as "I talk to someone and I feel that I am blushing", or "I give a speech and the audience looks neutral". These situations are later used for task concentration practices during the training.

Session 1. Awareness and automatic pilot

The first session starts with a short intention meditation on "why am I here" followed with a brief sharing in dyads about why we are here, and what we want to learn from the training. The sharing in dyads is an important practice in mindfulness groups of SAD patients, as sharing in the entire group may provoke anxiety. We also explain the practice of mindful speaking and mindful listening and suggest to try this out in the dyads. Group members are then invited to introduce themselves briefly in the entire group. We stress that this is the only time, next to the evaluation at the end, where we ask everyone to speak in the entire group. Speaking in the entire group might be highly anxiety-provoking for some participants because of their SAD, and listening is a gift which is just as important to the group as speaking. It is our presence that matters. Mindfulness is about really being here, in the group, with our full, open, and curious attention. If we practice being here, in the group, with that quality of attention, we fill benefit, whether we choose to speak or not.

The next exercise is eating a raisin mindfully, the introductory practice in MBSR (Kabat-Zinn, 1990) and MBCT, in which awareness is practiced using the five senses. The "beginner's mind" is experienced, as we imagine that we are from Mars and have never seen a raisin before. This raisin meditation is followed by an inquiry, as is done after most meditations. As participants with SAD may find it difficult to speak in the entire group, the trainer may use self-disclosure to model to the group what kind of answers can be given, for example: "What did you notice in your body when you smelled the object?" (silence …) "I noticed the production of saliva … Did anyone else notice that?". Also, the trainer can ask participants to raise hands if they felt (…) while raising his or her own hand as well.

The next point of the session agenda is to explain the rationale behind this training, while connecting it to what group members have shared in the introduction, as well as to the experience of the "raisin practice".

"Most of the day we are occupied with our thoughts and feelings. If these thoughts and feelings are negative, we can become self-focused and ruminate. This wandering of our mind to negative thoughts and feelings is an automatic process, we call this the automatic pilot. In a social situation that is stressful for you, for example a party, you will automatically focus on your feelings of nervousness, on how you think you come across, and what you think others will think of you. While your mind is wandering to such issues, you are not really at the party. This has many negative consequences: You will continue to feel anxious, you will respond in an automatic way to reduce your anxiety (e.g., avoid, withdraw), which is often not helpful, and you will not discover what others really think of you, and what is really going on in the situation, because you do not attend to the situation. In the training you will learn to be more aware and to be in the here and now. We practice stepping out of the automatic pilot and experiencing things with beginner's mind, as we just did with the raisin. This will make your life more interesting, lively, and thereby fulfilling. Being in the here and now implies that you will face your problems

and learn to accept your anxiety rather than fight against it. Fighting against anxiety will increase anxiety and other negative feelings. Once you start accepting your anxiety, and moving towards your anxiety, you will learn to recognize early signals of anxiety better and be more prepared to cope with them in a conscious way. In this training you will also learn to focus on your task and your environment, rather than on yourself, during stressful social situations. If you concentrate on the task at hand, there will be less (awareness of) anxiety, more openness to what is actually going on, and it might even help you perform better. What we ask from you is to practice one hour per day, this is really important."

In the second meditation, the body scan, patients focus on all aspects of their body one after the other. The homework for the next week is reviewed, and the meeting is finished with a short moment of sitting. All sessions will be ended in this way. As homework, patients are invited to practice the body scan daily, to do a routine activity with full attention, and to eat one meal with full attention, as we did with the raisin.

Session 2: Awareness of the body

We start the session with a body scan, followed by an inquiry of the experiences during this body scan, and also of the body scans at home. Obstacles that were confronted while practicing the body scan are shared extensively. In participants with social anxiety, obstacles to practice may not so much focus on their busy lives, as participants may be isolated or without a job, and therefore have time to practice. All kind of obstacles may be confronted during the body scan in the group or at home: Self-critical thoughts in relation to others ("I'm a bad meditator, others in the group do much better"), thoughts about physical sensations ("I'm sweating, I don't want to sweat, this exercise is not working for me"), expectations about the effects of the practice ("I'm not feeling any better after a week of body scans, how is this training supposed to work for me?"), or shame, in the group or at home ("Isn't this a weird thing to do, what do others think if they see me?"). We give an example of an inquiry related to shame:

C: I got distracted by thoughts about the way I smell, that others would notice how I smell.

T: Mmm… Thanks for sharing this. Is it okay if I ask you a few questions about this experience?

C: Sure.

T: What did you notice about your body when you thought about how you smell and that others would notice?

C: I started to sweat in my armpits and felt hot all over my whole body.

T: And what happened then?

C: I started to think about not wanting to sweat or get hot, and hoped that the practice would be over quickly.

T: And how did that affect you?

C: I became restless and watched the clock, and felt even hotter and sweatier.

T: And how did the meditation continue?

C: Then I heard you say that if you notice yourself getting distracted you have to give yourself a compliment and come back ... and I kind of managed to do that.

T: And how did that feel?

C: Okay, but then I smelled myself again and got distracted again.

T: What a great example of an obstacle, the obstacle may be pain, sleep, boredom, noises from outside, but more often noises from inside: our own thoughts about physical sensations, about not performing well, about what others may think, and then thoughts about not wanting to feel this or have these thoughts. Our practice is to notice the obstacle, the distraction, maybe give it a label, such as "ah ... shame," "ah ... thoughts about others," and gently bring your awareness back to the part of the body that is the focus of the meditation at that moment. And if this happens a 1000 times, do this a 1000 times. That IS the meditation, we are practicing our attention muscle, by observing our attention wander and bringing it back to the present moment.

After the group inquiry of the body scan practice, participants share their other homework experiences in dyads. Finally, the group is guided into a sitting meditation concentrating on breathing. As homework, group members practice the body scan daily, and at a different time of day do a sitting meditation focusing on the breath. They also choose a new routine activity to do with full attention, and complete the pleasurable event calendar daily.

Session 3: Awareness of breathing

This session starts with a seeing meditation, in which patients sit down and look anew at everything they see out of a window, without labeling things as "a tree" or "a bird". We then practice concentrating on breathing and the body. We introduce mindful movement and do some mindful movement practices. We practice the three-minute breathing space: in this very short meditation practice, participants learn to take a "break" by first focusing on where their attention is (thoughts, feelings, sensations), checking in on how they are at that very moment, then as a second step focusing on breathing with full attention, and thirdly, broadening awareness to the body as a whole. The three-minute breathing space is a very important coping skill that participants can, in time, use before, during, and after stressful social situations. But first the habit of taking a breathing space needs to be installed.

Homework consists of sitting with the breath and body on day 1, 3, and 5, and mindful movement on day 2, 4, and 6. In addition, the three-minute breathing space is practiced on three allocated times of day. Participants also complete the negative (social) event calendar. The purpose is to become fully aware of all aspects of unpleasant feelings, including fear related to social situations (e.g., emotions, sensations such as warm cheeks or sweaty hands, muscular activity, thoughts, etc.).

Session 4: Staying in the present moment despite it being difficult

We start with a longer sitting meditation focusing on breathing and on the body, then on sounds and finally on thoughts. The DSM-5 diagnostic criteria of social anxiety disorder (American Psychiatric Association, 2013) are reviewed, highlighting the maintaining role of heightened self-focused attention on aspects of the self, such as anxiety, bodily symptoms and (perceived) flaws in performance, and selective attention for external negative social cues often followed by attentional avoidance. We introduce the theme of staying in the present despite it being difficult, and our tendency to grasp at what we like and resist what we do not like. When we experience anxiety-free social interactions we want them to always be that way; when we do experience anxiety, we push it away. By welcoming our anxieties and moving towards them rather than away from them, or "befriending" our anxieties, we develop an entirely new relationship with our problems. We practice this by imagining a stressful social situation, followed by taking a three-minute breathing space. Some mindful movement practice is done, and mindful walking is introduced and practiced.

Homework consists of daily sound and thought meditation (or alternate with mindful movement practice), and of mindful walking a few times in the first week. The three-minute breathing space is practiced by making the dyads send each other a text message once a day on a random moment in this week, with the text ".b", which means: stop and breathe/take a break. (This idea was developed by Burnett, 2009, for his high school project in mindfulness). When they send the message, and when they receive it, they take a three-minute breathing space. The three-minute breathing space is also practiced before, during, or after difficult (social) moments.

Session 5: Allowing/Letting be

A sitting meditation is conducted, centering on awareness of breathing, body, sounds, and thoughts. Towards the end of the meditation we invite participants to think about a difficult ideosyncratic social situation (e.g., an embarrassing event) and note the effect on the body, and any action tendencies (e.g., to avoid, resist, fight). We then instruct participants to see if they can stay with that situation, experiencing it fully, accepting it and letting it be. The three-minute breathing space coping mechanism is practiced, along with the breathing space text: "Whatever it is, let me feel it", which illustrates the attitude of moving towards rather than away from anxiety.

Homework consists of a sitting meditation (breathing, body, sounds, thoughts), and practicing the three-minute breathing space at fixed times and whenever unpleasant feelings such as anxiety are noticed.

Session 6: From mindful awareness and acceptance to task focus

The principles of task concentration training are introduced. When in a stressful situation, we tend to focus our attention on (negative aspects of) ourselves,

which further enhances our anxiety. In those situations, we can learn to refocus our attention on the social task at hand and on the environment. We practice this in a dyadic role-play, in which one person (the speaker) talks about a holiday for two minutes, and the other person (the listener) first focuses entirely on him- or herself. In the next round, the speaker talks about another holiday for two minutes, and the listener focuses on the "task" (what the other person is saying) and on the environment (what the person and the surroundings look like). In the third round, the speaker talks for two minutes about a third holiday, and the listener combines listening to the other person and awareness of the environment along with an open awareness of their own body (posture, breathing, contact with the chair and ground) and how what the person is saying affects the listener. In all three role-plays, the listener notes afterwards what percentage of attention was focused on self, task, and environment (the total of all three should be 100%). Then, roles are reversed. The experience of doing this practice is discussed, in terms of how much the listener actually heard of the holiday stories and how he or she felt in each of the three rounds.

We guide a sitting meditation in which participants first focus on the body and breath and are then invited to imagine a difficult ideosyncratic social situation. We ask them to experience all facts of it, including bodily sensations, thoughts, action tendencies (e.g., avoidance), and then switch their attention to the social task at hand (e.g., listening, speaking), the other(s) present, and the environment, and imagine focusing all attention on the task, others, and the environment. We finish this practice by combining this task focus with a broader awareness of the body.

We also practice task concentration training with awareness of the body and breathing in vivo, while sitting, standing, or walking in a busy train or bus station just outside the treatment building. Participants are encouraged to look for mildly socially threatening situations (which can be different for each group member) and practice focusing on the task and the environment. As most treatment institutes are in a city, look for places nearby to practice—excellent practicing situations are public transport places, where many people are waiting and thus looking at others, shopping centers, terraces, and bars and lunchrooms. Inside the building, waiting rooms can also be places to practice. Sharing of the experiences takes place back in the training room.

The homework is prepared in dyads. Five of the idiosyncratic target situations that were formulated before the start of the training are chosen and practiced, as well as a task to focus on. Homework involves daily practice of a meditation or a chosen combination of meditations (sitting meditation, walking meditation, body scan, yoga). Also, participants continue to practice the three-minute breathing space at fixed moments, as well as when unpleasant feelings arise. One difficult social situation from the five predefined difficult social situations is chosen every day to practice task concentration. Alongside task concentration, participants are also instructed to become aware of their own posture and/or breathing, and to keep their concentration on the task as well as their own posture and/or breathing in a broader awareness.

Session 7: Flexibility of attention

After a short sitting meditation and a review of homework, the group is divided in dyads. Dyads are instructed to go into the city to approach stressful social situations, in which they practice concentration on the task, other(s), and environment, plus bodily awareness (feet on the ground, awareness of their breathing, how they feel physically). They are encouraged to experience full bodily awareness and accepting whatever comes up in the difficult situation. Before they go into the city, the group does a three-minute breathing space. On their return, after another three-minute breathing space, experiences are shared.

Role-plays are also conducted practising difficult social situations, in which task concentration is practiced as well as the attitude of experiencing and letting be of anxious feelings. Role-plays may concern interactions, but also presentations. They can be conducted in subgroups or in the full group. An example:

The participant is a good-looking young man who feels that he is ugly and that people stare at him as a result. Walking in a swimsuit on a busy beach is the situation he fears most; he is highly self-focused and negatively aware of his body. In the role-play he walks on a beach, while all group members lie down, sunning or reading. He defines his task as looking out over the water to enjoy the view, and gradually includes the people who are lying on the beach in his sea of vision. He wants to observe what they are doing (reading, chatting, sunbathing). After having practiced this, he then includes being aware of his feet on the sand, feeling the movement of his body, and the sun on his skin. He then moves on to include awareness of feelings of anxiety (nervousness in the belly, blushing) while walking.

Homework consists of practicing the daily self-chosen meditation or combination of meditations. Also, patients continue the practice of task concentration training in gradually more difficult social situations, based on the five preset target social situations. Further, patients practice flexibility of attention, both in neutral, non-socially threatening situations, as well as in social situations that are difficult. An example of a neutral situation is walking through a quiet forest, focusing attention first on what you see, then on sounds, smells, sensations, and finally on all senses simultaneously. Examples of social situations are starting a conversation, ordering a drink, or walking through a busy bus station. Patients are asked to focus attention first on the task, then on something that makes them tense (a thought, a feeling, an image), and then redirect their attention to the task.

Session 8: Using what is learned to deal with future difficult situations

We start with a body scan, to bring us full-circle. Participants first share in dyads what they have learned during this training and then in the whole group. Group members are invited to make a plan about their continued practice for the next eight weeks, in terms of meditation and task concentration in difficult social

situations, and share this plan with the full group. We then have an "intention meditation" on this plan. Homework consists of continuing a self-chosen regular meditation practice, whichever that is, until we meet again at the follow-up session eight weeks later. Group members are encouraged to continue using task concentration in challenging social situations. Participants are invited to prepare a personal process description about their experience during this training, to read aloud during the follow-up session. We end the session with wishing each other well.

Follow-up session: Beginning anew each time

The session starts with a sitting meditation. Group members talk about how things went in the past eight weeks, first sharing in dyads and then with the whole group. They also read aloud their personal process descriptions, looking back at the training plus the follow-up period (examples of process descriptions are provided in the appendix). Participants formulate their plans in terms of continuing practice for the coming year, after which an assessment plus feedback session will take place. We also present the results of the group as a whole, showing what has changed, based on the questionnaires patients have filled in. We end with a meditation on a stone. Each participant chooses a personal stone, and we lead a short meditation in which the object is examined in the same way that we examined the raisin in the first session. Participants take the stone home as a reminder of what they learned in the mindfulness training, and of the group who shared this experience with them. After the group session, participants receive individual feedback about their progress, based on the questionnaires.

DISCUSSION

In this chapter, we have argued that maladaptive attentional processes, both on theoretical and empirical grounds, are considered to be at the core of SAD. Mindfulness meditation is one of a number of recent interventions that focuses on changing these attentional processes, and which has been shown to have a clinically relevant impact on social anxiety. However, there are several issues that require further consideration.

One of these issues is related to the success of CBT. Given the generally large effect sizes of CBT in the treatment of SAD, one might question the need for mindfulness-based interventions. However, as we have argued earlier in this chapter, CBT does not yield the same favourable effects for everyone. Hofmann and Bögels (2006) estimated that 40–50 percent of people suffering from SAD show no or very limited improvement following CBT. As such, a first argument to investigate mindfulness is that a considerable number of SAD patients might benefit from other interventions besides CBT. Secondly, mindfulness might be more cost-effective than CBT, because mindfulness-based interventions are typically taught in larger groups. Although CBT is also often provided in a group

format, there are several studies suggesting that group CBT is less effective than individual CBT (Bögels & Voncken, in prep.; Mörtberg, Clark, Sundin, & Åberg Wistedt, 2007; Stangier, Heidenreich, Peitz, Lauterbach, & Clark, 2003). Thirdly, as mindfulness is primarily argued to improve general well-being (Kabat-Zinn, 1990), mindfulness-based interventions in SAD may improve the overall quality of life of socially anxious people to a higher extent than CBT (e.g., see Jazaieri et al., 2012). Fourthly, mindfulness promotes a change in general lifestyle, that is, taking care of oneself and one's body, "healing from within", and promotes an attitude characterized by acceptance. As such, it is possible that after mindfulness training, participants will rely less on (mental) health care services, rendering mindfulness more cost-effective over time. Fifthly, the finding that mindfulness is more effective than cognitive therapy in patients who have SAD without comorbid personality disorders (Bögels & Voncken, in prep.) suggests that for patients with less complex or severe forms of SAD, mindfulness may be the treatment of choice.

Another issue that relates to the comparison of mindfulness and CBT concerns the operationalization of mindfulness in different studies. In most intervention studies that we discussed in this chapter, mindfulness training was only one component in a treatment that also entailed aspects of CBT, cognitive therapy, acceptance and commitment therapy, task concentration training, or other forms of meditation. Hence, more research is needed to disentangle the effects of mindfulness and other therapeutic interventions on social anxiety. It might even be the case that the effects of different interventions are additive, so that patients may show more improvements when the intervention incorporates aspects of both CBT and mindfulness (Piet et al., 2010).

Of more theoretical relevance, there is hardly any research that addresses the underlying mechanisms of changes in social anxiety following mindfulness training. The general idea is that mindfulness increases attentional control and that this increase in attentional control results in improved emotion regulation (Gross, 1998; Wadlinger & Isaacowitz, 2011). Although there is some evidence that mindfulness indeed changes attentional processes, no study to date has examined whether the change in social anxiety following mindfulness is mediated by a change in attentional control. A thorough understanding of the processes that mediate clinical change is imperative, because such understanding would allow for further improvement (or simplification) of treatments. If changes in social anxiety are indeed mediated by changes in attentional control, then mindfulness interventions focusing specifically on the regulation of attention, or those which include other manipulations to train attention, should yield better outcomes (e.g., see Bögels & Voncken, in prep.).

Also, improving the self-regulation of attention is only one aspect of mindfulness meditation. As mentioned earlier, mindfulness also entails an openness for and acceptance of any current experience (Bishop et al. 2004). To date, it is unclear whether the beneficial effects of mindfulness on social anxiety are primarily caused by improving attentional control, or by this general openness

for and acceptance of current experiences. Related to the attitude of acceptance, mindfulness teaches self-compassion, the ability to comfort oneself in the face of stress and suffering (Germer & Neff, 2013; Neff & Germer, 2013). A study of Kuyken et al. (2010) revealed that self-compassion is a key process in the mediation of change through mindfulness-based cognitive therapy (MBCT) in depressed patients. To what extent self-compassion is also a key element in mindfulness for SAD patients, rather than or next to attentional changes, is another question for future research.

Future research on the effectiveness of mindfulness to reduce SAD could also benefit from a more unified or standardized protocol. Mindfulness is a very broad concept that encompasses many different aspects. As a consequence, different research groups have construed their own specific mindfulness training programmes, with each of these programmes emphasizing different aspects of mindfulness. In some studies, mindfulness training was specifically tailored for people suffering from SAD (e.g., Bögels & Voncken, in prep; Kocovski et al., 2009, 2013), while in other studies, a more generic mindfulness-based stress reduction training was used (e.g., Goldin & Gross, 2010; Jazaieri et al., 2012; Koszycki et al., 2007). Inconsistencies between the results of studies might therefore reflect different operationalizations of mindfulness rather than genuine inconsistencies in the data. The protocol that we present in this chapter could be used in further research, so that possible unwanted variability in study outcomes due to treatment artefacts or specific tasks and protocols is reduced.

Another major gap in the literature are studies involving different age groups. Although Piet et al. (2010) focused on SAD in young adults (aged between 18 and 25), there is to our knowledge not a single study in which the efficacy of mindfulness is investigated within a sample of children or adolescents with SAD. This is especially relevant given the fact that most cases of SAD have their onset in early adolescence (Chavira & Stein, 2005), and the fact that adolescent SAD is predictive of later SAD (Pine, Cohen, Gurley, Brook, & Ma, 1998) and depression (Stein et al., 2001). Furthermore, children or adolescents suffering from SAD are more likely to drop out of school (Stein & Kean, 2000), making them even more vulnerable to poor quality of life in adulthood. As such, the treatment of early signs of SAD is imperative. Although CBT has generally yielded positive results in children with SAD (for a review, see e.g., Chavira & Stein, 2005), the effects of CBT for social anxiety disorder are less than for other anxiety disorders in childhood (Rapee, 2013). Therefore, there is room for the development of new psychological treatments for childhood SAD. As adolescence is a period of excessive self-focused attention and concerns about others' opinions and judgments, mindfulness may help adolescents at risk of suffering from SAD to balance their attention and rely more on their own opinions.

Finally, for about half of the patients suffering from SAD, fear of showing bodily symptoms, such as blushing, trembling, and sweating, is their central fear (e.g., Bögels & Reith, 1999). It has been argued that fear of showing bodily symptoms is a distinct form of SAD that should qualify as a subtype in the

DSM-5 (see Bögels et al., 2010, for arguments). As heightened self-focused attention on bodily symptoms is found to be a central maintaining mechanism in these patients, mindfulness-based interventions may be particularly effective in people suffering from this type of social anxiety. Also, Bögels and Voncken (in prep.) found that mindfulness was more effective than cognitive therapy for SAD patients without comorbid personality disorders. Research on how mindfulness versus CBT works for different forms of SAD is therefore important.

In sum, there is now ample evidence indicating that mindfulness meditation training has a substantial impact on SAD. In our opinion, mindfulness could therefore be a relatively accessible and cost-effective alternative for, or a complement to, traditional cognitive behaviour therapy.

APPENDIX: EXAMPLES OF PERSONAL PROCESS DESCRIPTIONS FROM PATIENTS

"The first session was surprising for me. I had expected that people immediately would be confronted with their fears. But I found it very good that the therapy built up slowly. I was confronted with my fears, but in a different way than expected. I also found it interesting to hear reactions of group members. Before the therapy I suffered from hyperventilation, I still have it from time to time, but I know better what to do now. I have also learned to concentrate better in stressful situations. In difficult situations I am now more aware of the situation itself and do not focus constantly on myself."

"My concentration improved a lot. Where it used to be difficult to focus my attention on my work, tasks, and family, I am now much more able to work on my schedule and be "in the here and now". I have learned that thoughts can be transient, as sounds. You can observe and relativize them. In particular negative thoughts, suspicion, and anxiety can in my case be put into perspective. Reality should stay in sight. Negative events, thoughts, and reactions of people don't go away. The art is to accept them where necessary and to learn from them".

"The first thing I discovered in the group was that the people were all very normal, you would not think from the outside that they had similar problems as I. To discover that I was not the only one with a social anxiety disorder was in itself important. It helped me to share with some important others in my life that I had a social anxiety disorder.

"Awareness and (task) concentration are central in all practices, and breathing (and the body) is used as a constant anchor, as it is with you all the time. What I have specially learned from this is when you focus yourself on the task at hand and spend as much time as possible on it, there is no or hardly any time left to focus on yourself, to get distracted by all kinds of undesirable, (partially) automatic thoughts and actions, such as avoidance of the situation. I think this is the essence of the therapy. If the distraction does occur, we have our breathing, an always present instrument to return to the here and now and to redirect attention on the task of that moment. The exercises have taught me to be still in the here and now and simply be for a while, without having to do things, without the hectic action of the day and having to think of what to do next, and do this with full attention too. Through this I live with more awareness and I am "being made to live" less.

"I have also learned that it is better to accept your fears than to resist them. This has the opposite effect. I accept now that I live with certain fears, as we all do. When they manifest themselves it does not help to resist them as they are already there. That is the moment to bring into practice what was learned. Be aware of your fears and make note of them, so that you step out of the automatic pilot, direct your attention to your breathing to be truly present, and broaden your awareness to the rest of your body, your environment, and your task. This way I have learned to answer with more awareness instead of reacting on autopilot. Be aware, keep breathing, and focus on the task!*"*

ACKNOWLEDGMENTS

We are grateful to Mark Williams and Melanie Fennell for their help on the mindfulness protocol, in particular for their help in thinking about the paradox that the mindfulness attitude ("awareness of whatever is in the foreground") and task concentration training ("focus on the task rather than oneself") appears to be. We thank Guido Sijbers for his help in developing this program, and Marisol Voncken for her help with carrying out an RCT comparing mindfulness to cognitive therapy in SAD.

Bram Van Bockstaele is funded by a FMG-UvA Research Priority Grant on Affect-Regulation.

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