

Mindfulness for singers: The effects of a targeted mindfulness course on learning vocal technique

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This paper reports the development and implementation of a unique Mindfulness for Singers (MfS) course designed to improve singers' vocal technique. Eight university students completed the intervention. Five Facet Mindfulness Questionnaire (FFMQ) scores showed general improvement across all five facets of mindfulness. Qualitative results showed benefits of daily mindfulness exercises on breathing, micro-muscular awareness, vocal tone, text communication and problem solving. Exercises also positively affected teacher/pupil relationships, concentration and focus in lessons and practice. Teachers identified six of the eight participants in a blind controlled study indicating that vocal students at any level would benefit greatly from a mindfulness course as a holistic intervention.

Introduction

Meditation, in different forms, has been a common feature of many religions over the course of human history. However, it is only in the last few decades that a secular form of the Buddhist 'mindfulness' meditation has been developed and its effects researched by scholars from a variety of fields (Esch, 2014; Rerup & Levinthal, 2014). The secular practice embodies two of the religious forms: 'samatha' or 'calm' meditation and 'vipassana' or 'insight' or 'discernment' meditation. 'Samatha' encourages focused concentration and 'vipassana' widens awareness to encompass bodily sensations or worldly stimuli. Breath awareness is a core practice to both forms (Burnett, 2009). Jon Kabat-Zinn, a molecular biologist and practising meditator developed the first secular course called the Mindfulness Based Stress Reduction scheme (MBSR) in 1979 for patients that he saw attempting to deal with chronic depression, anxiety and stress. Transferring a transcendental religious practice into a secular learnable principle, to be researched in scientific terms, has engendered its own research which has covered methods of defining (Bishop *et al.*, 2004), developing and testing Likert type scales and measures (Baer, 2003; Brown & Ryan, 2003; Feldman *et al.*, 2007) and imparting mindfulness through a variety of courses and targeted interventions (Brown *et al.*, 2007). The largest amount of research on secular mindfulness has been performed in the clinical domain where meta-analytical techniques have demonstrated its efficacy in a wide variety of conditions. For example, Grossman *et al.* (2004) found that MBSR courses significantly helped a range of individuals with a wide variety of clinical complaints such as pain, heart disease and cancer. Another meta-analysis of 39 mindfulness-based studies (Hofmann *et al.*, 2010) found the interventions had

promising effects in the areas of anxiety, depression and psychiatric disorders. Other areas of mindfulness research include the business community (Giluk, 2010; Langer, 2010), sport (Kaufman *et al.*, 2009; Moore, 2009) and increasingly the field of education (Hennelly, 2011; Frank *et al.*, 2013). With regards to the latter, recent philosophical enquiry has explored spirituality (as opposed to religion) as a basis for music educational practices (Mell, 2010; Palmer, 2010; Sarath, 2013). In seeking to transform education into an inclusive, holistic and integrative structure (an education of the whole student), music education is seen as a lens through which to explore spirituality, world culture and the nature of transcendence. Spirituality is also being explored through contemplative, holistic and mindfulness studies in schools and by initiatives such as the Centre for Contemplative Mind (CCMS, 2014) and Spirituality and Music Education (SAME, 2014). Palmer (2006) proposes a three-fold method by which spirituality can be experienced in music: mental preparation by meditation; skill development and practice; and being aware of the ability to engage in musical events. The current study explores the effects of mindfulness on music students' preparation of musical performance, skill development and practice.

Definition and measurement of mindfulness

A regularly cited definition of mindfulness is that 'mindfulness means paying attention in a particular way: on purpose, in the present moment, and nonjudgmentally' (Kabat-Zinn, 1994, p. 4). Kabat-Zinn's definition seems to have persisted over any other definition because of the simple, yet encompassing terminology as well as the volume of research that has used his course, or variants of, as the interventional training. This project, which employs an adaptation of the MBSR course devised by Kabat-Zinn, uses his definition for this research.

Various methods have been devised to measure mindfulness as a trait, state and as an intervention. Neurological investigations are one such method; studies using positron emission tomography (PET), electroencephalography (EEG) and functional magnetic resonance imaging (fMRI) have highlighted neurological changes in those who have undergone mindfulness training (Goldin & Gross, 2010; Ives-Deliperi *et al.*, 2011). The largest body of research uses self-report measures such as the Kentucky Inventory of Mindfulness (KIMS; Baer *et al.*, 2004), the Freiburg Mindfulness Inventory (FMI; Buchheld *et al.*, 2001) and the Mindfulness Awareness and Attention Scale (MAAS; Brown & Ryan, 2003). A key measure is the Five Facet Mindfulness Questionnaire (Baer *et al.*, 2006) which was constructed from a factor analysis of five different mindfulness questionnaires.¹ The FFMQ consists of 39 statements investigating five elements of mindfulness ('observing', 'describing', 'acting with awareness', 'accepting without judgment' and 'non-reacting'). The FFMQ has been shown to have good internal consistency and test-retest reliability (Lilja *et al.*, 2011; Veehof *et al.*, 2011) and has been used in a range of mindfulness studies comprising large numbers of participants (Thompson & Waltz, 2010; Veehof *et al.*, 2011; Cowdrey & Park, 2012). It has also been used to great effect in more small-scale research. For example, Lovas and Barsky (2010) investigated the benefits of an eight-week Mindfulness Based Cognitive Therapy (MBCT) course on 10 participants with hypochondriasis (a severe health anxiety disorder); significant improvements were reported in the areas of health anxiety, somatic symptoms and mindfulness, both immediately after

the intervention and at the three-month follow-up. Another pilot study (Uebelacker *et al.*, 2010) investigated 10 participants with depression who had responded inadequately to medication and subsequently took part in a Vinyasa Yoga course. Vinyasa Yoga, although not a derivation of an MBSR or MBCT course, is practised with heavy emphasis on Eastern mindfulness techniques such as breathing and present moment awareness. Findings showed a significant increase in mindfulness and a decrease in depression at post-test. Of most relevance to the current study were participants' comments on the meditational (or mindfulness practice) aspects of the course; participants were positive about the course's focus on breathing but less positive about the philosophical aspects such as the tenet of 'acceptance' and inspirational quotes. A slightly larger randomised and controlled trial using an eight-week MBSR-based mindfulness intervention involved 75 patients suffering from Irritable Bowel Syndrome (IBS) (Gaylord *et al.*, 2011). Measured using the FFMQ, the mindfulness group showed reduced IBS severity, improved quality of life and reduced distress both post-test and three months later.

Interventions

The MBSR course encompasses eight weeks of two and a half hour group classes with a retreat day in the sixth week. It involves: learning breathing meditations; the principles of 'body scan'; gentle mindful yoga movements; eating meditation; and walking meditation. Participants are encouraged to assign 45 minutes daily to home practice. These requirements are designed to bring participants into the present moment to be aware of their primary suffering, anxiety or stress and learn to disassociate from the ruminative or reactive thoughts that accompany chronic suffering described in the course as 'secondary suffering' (Kabat-Zinn, 1990). Baer *et al.* (2011) suggest that the FFMQ is a suitable questionnaire for use with the MBSR. Mindfulness Based Cognitive Therapy (MBCT; Segal *et al.*, 2002) was developed from MBSR and is very similar in format but with a stronger emphasis on treating depression and rumination. MBCT has been shown to be an effective treatment for chronic depression and, as a result, has been available on the NHS since 2004 for sufferers with three or more relapses (NICE, 2010).

Mindfulness in education

As mentioned above, there are initiatives underway investigating spirituality and meditation within music education and some educators in America have become interested in utilising child-centred modified MBSR courses for use in the general classroom. The Garrison Institute Report (2005) discovered projects such as the 'Wellness Works in Schools' program for middle schools (Desmond, 2009), 'Inner Kids' (Flook *et al.*, 2010) and 'Attention Academy' in elementary schools (Napoli *et al.*, 2005). In one example, teaching mindfulness to adolescents with learning difficulties significantly improved academic performance and learning outcomes (Beauchemin *et al.*, 2008). The impact on education in America has generated a yearly Mindfulness in Education conference series which started in 2008 to enhance teachers' lives as well as their students. A recent keynote speech by U.S. Congressman Tim Ryan at the 7th 'Mindful Nation Movement' conference (2014) outlined how mindfulness in education is coming to the notice of policy makers in America.²

In the UK, the Oxford Mindfulness Centre (OMC), within Oxford University's Department of Psychiatry, and the Well-being Institute at Cambridge University are currently collaborating on the Mindfulness in Schools Project (MiSP). Their 'stop, breathe' (.b) programme, another MBSR style intervention, has been specifically designed for UK schoolchildren and initial research has demonstrated a positive outcome for the self-perceived well-being of male adolescents (Huppert & Johnson, 2010) and positive changes in behaviour, academic productivity and performance in mixed gender schools (Hennelly, 2011; Kuyken *et al.*, 2013). It has been suggested that mindfulness training should also be included in initial teacher training in the UK (Stewart, 2014). Chris Cullen, co-founder of the MiSP initiative, specifically modified the MBSR and MBCT interventions into a course for student musicians at the Guildhall School of Music & Drama (GSMD), UK (personal communication). The impact of this course on student musicians' (including singers') well-being and musical performance was investigated by Hribar (2012). Hribar's results showed a significant correlation between mindfulness training and well-being, positive emotion, life satisfaction and levels of trait mindfulness. There was a decrease in perceived stress and symptoms of depression, and although no change in symptoms of anxiety was observed, a beneficial effect was seen in the students' mechanisms of dealing with music performance anxiety. A quasi-experimental intervention study (Steyn, 2013) using an amalgamation of sports inspired psychological skills training (PST) and mindfulness, acceptance and commitment therapy (MAC) was employed with 36 university music students to investigate the impact on their well-being and ability to deal with music performance anxiety (MPA). The study employed nine measures including the FFMQ. It showed significant improvements in the facets of Describe and Non-Judge, lower anxiety, greater levels of self-confidence, concentration, relaxation and motivation levels as well as more positive relations with others and the lowering of competitive state anxiety. A recent meta-analysis of music and mindfulness investigations (de la Cruz & Rodríguez-Carvajal, 2014) suggests that this field of study is ripe for research.

Mindfulness for singers

There is currently no research investigating mindfulness purely for singers but research in other areas suggests that learning mindfulness techniques could be of great benefit. The discovery by Farb *et al.* (2013) of more intense sensory acuity and interception (awareness of inner-body stimuli) in the mindfulness group in their research could explain why Fruzzetti and Erikson (2009) argue that increased body and breathing awareness of mindfulness facilitates learning new skills. This could be of particular use for singers where breathing and micro-muscular awareness is paramount for learning and maintaining good singing technique. Other research has shown that mindfulness students cultivated better attention in lessons (Hennelly, 2011) and a better working memory enabling them to remember new sensations and sounds after the lessons had ended (Jha *et al.*, 2010). This could also apply to those in singing lessons. Furthermore, Bishop *et al.* suggest that 'mindfulness can be considered a metacognitive skill' (2004, p. 233) and Hallam (2001) proposes that metacognitive skills are essential for strategic problem solving, evaluating learning outcomes, and developing practice skills such as time management to ensure excellence as music students and performers. It would thus be valuable to explore whether teaching

mindfulness to voice students would change or develop their behaviour and thought processes (e.g. practice habits). Encouraging students to be reflective and not reactive through mindfulness training can help with the fear of learning something new (Creswell *et al.*, 2007) which could facilitate learning new vocal techniques. Being reflective and not reactive can also help develop better relationships with the teacher (Huppert & Johnson, 2010).

The aim of the current intervention study was to develop a novel mindfulness course for singers and explore its effects on experiences of learning vocal technique. The philosophy underpinning the teaching and learning approaches in the MfS course and which guided the selection of material and instructional methods was not to teach singing but to enhance and complement formal singing lessons by teaching mindfulness in a relevant way for students studying voice in a University setting. Teaching methods included group discussion, lecture format, handouts, audio examples, practical exercises, daily practice and performance opportunities.

For the student singers, the study involved a pre- and post-test questionnaire (FFMQ), participation in the Mindfulness for Singers course (MfS) followed by semi-structured one-to-one interviews. It also involved the student participants' teachers in a blind control design to investigate any outward effects observable by non-mindfulness practitioners. It was predicted that taking part in the course would positively affect experiences of learning singing technique by promoting increased concentration and attentiveness in lessons and developing present moment awareness of the physical sensations of singing. The study also sought to explore other additional effects on practice and performance.

Method

Eight university voice majors (female $n = 6$, male $n = 2$, mean age = 20.25, $SD = 1.49$) were recruited via posters and emailing lists. There was 100% attendance for the tests, course and interviews. The participants' vocal teachers³ ($n = 4$, all female) were invited to participate in the blind study. The FFMQ (Baer *et al.*, 2006) was administered pre- and post-intervention. The Mindfulness for Singers (MfS) course is a short form of the MBSR (Kabat-Zinn, 1990) and MBCT (Segal *et al.*, 2002; Williams & Penman, 2011) courses specifically tailored for singers by the first author who is both an experienced mindfulness practitioner and singing teacher. The course consisted of eight weekly one-hour sessions, and covered the main areas found in a mindfulness course, such as walking and eating awareness but excluded the kindly awareness practice.⁴ Specifically for singers, the subject of breathing awareness was included with the suggestion to develop this into each singing breath; mindful movement had an emphasis on yoga moves useful for singers' posture and breathing; the concept of primary and secondary suffering was introduced with reference to experiencing criticism and judgement from others and oneself; and body scans included a focus on sensations in those areas used in singing such as the abdomen, the back and facial/neck areas. A 10-minute daily practice regime and a weekly task was also set (see the Appendix for an overview of the course).⁵ Participants had the possibility to ask questions about the course, the mindful practice and its application to their own vocal studies. Participants were provided with both written and verbal mindfulness practice instructions. All course resources were made available on a specially designed website

for the purpose and duration of the course. In the week after the course had ended, all participants completed the post-course FFMQ, took part in one-to-one interviews with the first author and were given their reimbursement. The interview, lasting between 15 and 30 minutes, asked participants about their general experience of doing the course; experience of home practice; the effect of doing mindfulness exercises on singing lessons, voice practice, learning singing technique, teacher/student relations, pre-performance nerves, creativity, and post-performance criticism; and the impact the course may have had on daily life in general.

The participants' singing teachers were interviewed for 10–15 minutes at the end of the course. The first interview question asked them if they were able to determine which of their students had taken the mindfulness course. If the participants were correctly identified, the teacher was asked in what way their students had changed. If the participant was not identified, their name, or names were revealed and the opinion of the teacher was sought in hindsight. Interview data were analysed following the principles of thematic analysis (Braun & Clarke, 2006). Ethical clearance was gained from the University's Faculty Research Ethics Committee (PVAR12-009) and pseudonyms used in results to ensure anonymity. Below we present the FFMQ results for participants combined and individually, followed by the interview data from the participants and teachers.

Results and discussion

Participants completed the FFMQ at the beginning and end of the course. This quantitative measure was used to identify general trends in levels of mindfulness as a result of the intervention study. Table 1 shows the pre- and post- mean scores for the five facets for all participants combined. Data show an increase for all five mindfulness facets across the course of the study; this was particularly noticeable for the Non-Judge and Non-React facets. Descriptive rather than inferential statistics are used here due to the small sample size.

The Observe facet in the FFMQ is characterised by statements such as 'When I'm walking, I deliberately notice the sensations of my body moving.' It covers the awareness of information picked up by the senses from the participant's surroundings and the effect they have on the body or mind. Five participants' scores increased, Grace remained static whereas the scores of Jim and Pippa decreased slightly over the period of the intervention. However, Jim verbalised an increase in observation when singing, 'I've just been more

Table 1 Pre- and Post-FFMQ mean scores for all participants.

Mindfulness Facet	Pre- Mean (SD)	Post- Mean (SD)
Observe	26.88 (3.44)	28.38 (1.99)
Describe	26.25 (4.74)	28.38 (5.12)
Aware	24.25 (3.49)	25.38 (2.07)
Non-judge	21.63 (4.78)	26.50 (5.90)
Non-react	17.38 (2.50)	22.38 (2.67)

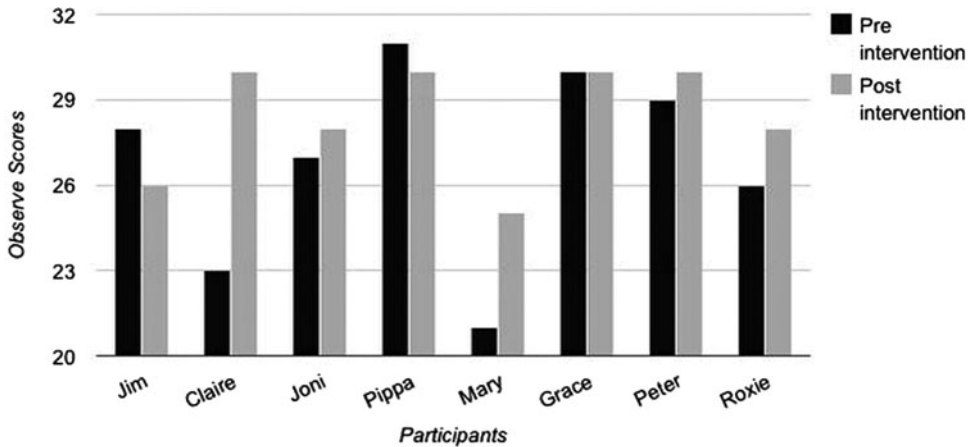


Fig. 1 FFMQ individual participant scores – Observe facet.

aware of how I'm sounding and what things feel, sensation-wise.' The FFMQ statements may not have suggested an improvement in this area to Jim as it questioned general living rather than singing specifically. This is clear when he commented that the course had affected his mindfulness skills in singing but 'probably not in daily life'.

The Describe facet is characterised by statements such as 'I'm good at finding words to describe my feelings.' It covers the ability to describe beliefs, opinions, emotions, sensations and experiences clearly. Jim's score decreased over the intervention although he stated the mindfulness course was helping in this area:

I get very stuck with words . . . and the phone I don't like because you can lose body language and eye contact . . . mindfulness helps and has helped and will continue to help.

It is possible that the mindfulness course made Jim more aware of this as a problem, which is why his score decreased. However, most of the participants had a small rise over the course of the intervention with Joni's score increasing the most. She felt being a more mindful singer had helped her when coaching a group of *cappella* singers, describing and explaining how and why breathing exercises helped them to be better singers.

The Act with Awareness facet is characterised by statements such as 'When I do things, my mind wanders off and I'm easily distracted.' It covers aspects of attention and focus in tasks such as being on autopilot, daydreaming or rushing through undertakings. Most of the participants, like the music students in Hribar (2012), described a variety of self-perceived awareness improvements even though the results from the FFMQ measure showed the least increase in this area. For example, four participants (Jim, Claire, Peter and Roxie) reported during interview that developing better awareness had helped them in physical terms as a singer even though Peter and Roxie had no FFMQ measure score change over the intervention and Claire's score decreased. Claire said that she was now more aware

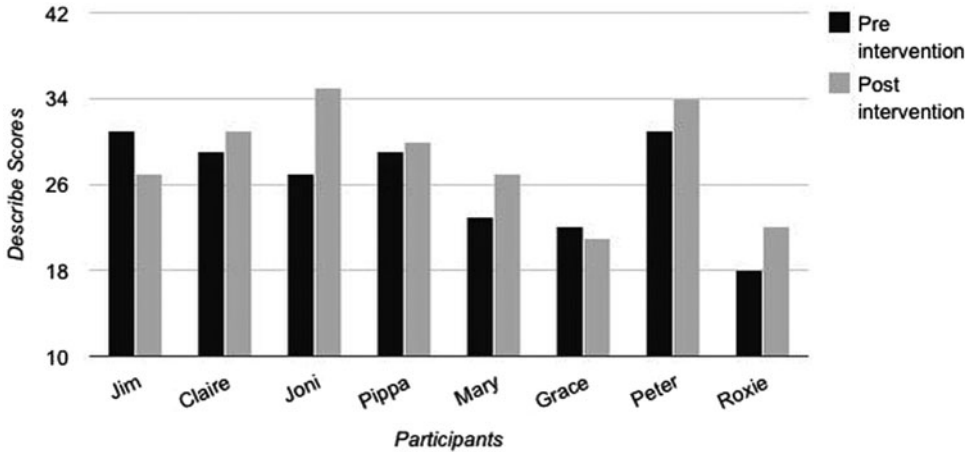


Fig. 2 FFMQ individual participant scores – Describe facet.

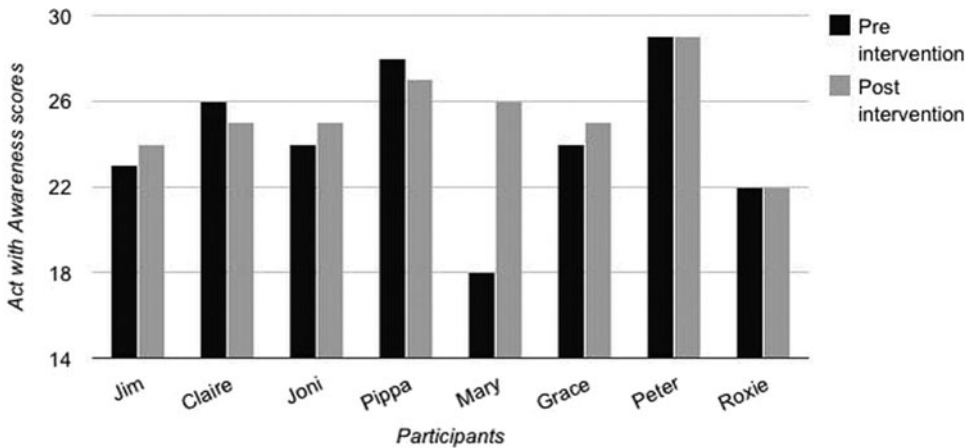


Fig. 3 FFMQ individual participant scores – Act with Awareness facet.

of unnecessary tensions in her body, which she was able to relax through the mindfulness exercises, to improve vocal tone and develop more effective abdominal muscular control.

The Non-React facet is characterised by statements such as 'I perceive my feelings and emotions without having to react to them.' It covers aspects such as pausing or watching distressing thoughts, emotions, feelings or images and being calm before reacting.⁶ All the participants except Joni improved in this facet over the duration of the mindfulness course according to the score results from the FFMQ measure. This facet was mainly explored by the participants when talking about receiving criticism. Some of the participants perceived critical feedback as a personal attack stating that they sometimes blew it out of proportion or applied something else to what was being said. After doing the mindfulness exercises, most of the participants reported being less defensive, less offended, less upset and more

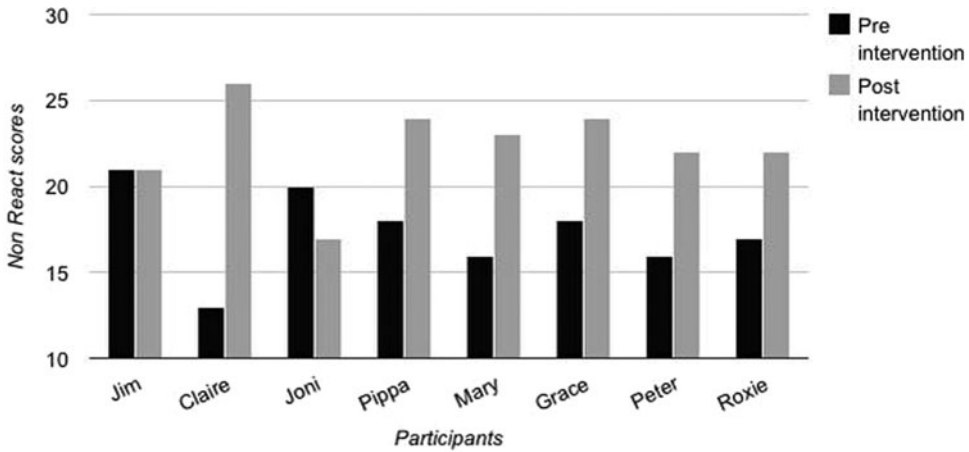


Fig. 4 FFMQ individual participant scores – Non-react facet.

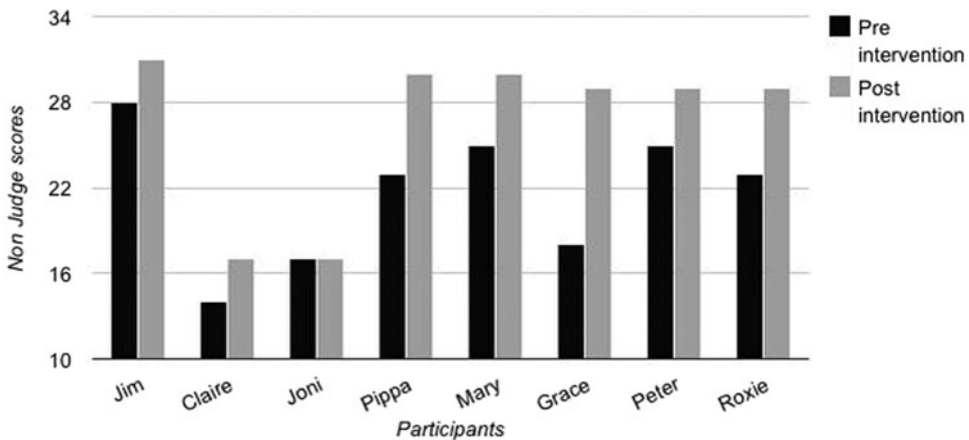


Fig. 5 FFMQ individual participant scores – Non-judge facet.

accepting of criticism. Claire had the greatest Non-React score increase and said that after doing the mindfulness course, 'I was able to not get really upset. I was able to take it on board' and, like some of the participants in the MiSP programme (Hennelly, 2011), described herself as now being more 'rational'. Roxie and Pippa perceived this as being one of the major benefits of doing the mindfulness course.

The Non-Judge facet is characterised by statements such as 'I criticise myself for having irrational or inappropriate emotions.' It covers aspects of self-judgement when emotions or thoughts are perceived as good or bad followed by mental self-chastisement. Apart from Joni, whose score remained stable, all the participants increased their Non-Judge results over the course of the intervention. Grace improved the most and mentioned the effect in her singing lessons.

I always judge how my singing lessons went by how I feel after it so if I come out, 'yeah, that was a really good lesson', it's usually when I've done the mindfulness before.

Mary and Peter would self-criticise for making mistakes but found they were less negatively self-judgemental during performances after the mindfulness exercises. Roxie projected her fears in the imagined voice of her teacher but the mindfulness course helped her see the situation more clearly making her 'freer' in lessons. Pippa found few aspects of the mindfulness course to help her as a singer but she said 'I think it's had more impact on not thinking so negatively about things', which helped her in other parts of her life.

Interview results

The aim of the research was to discover the effects of participating in a mindfulness course on experiences of learning vocal technique. Five of the participants studied vocal technique during the course of the intervention. The remaining three were engaged in preparing for their final recital that semester but had studied technique extensively and were asked for their opinion. Participants reported effects from doing mindfulness exercises in a variety of vocal learning activities. In the area of learning new techniques, main themes included effects on learning breathing techniques, awareness of body and muscular sensation and in combining techniques for performance. Participants also found changes in the experience of being in lessons and their relationship with the teacher. In their singing practice experience, the main theme was 'being in the zone' which influenced quality and length of practice.

Learning new techniques

In the same term that they participated in the mindfulness course, five of the participants (Jim, Claire, Grace, Peter and Roxie) studied western classical style singing technique in lessons, namely, breathing techniques; vocal sound, tone and text techniques; and combining vocal techniques. We address these in turn here.

Firstly breathing techniques. Jim, Grace, Claire and Peter all worked on breathing techniques and experienced a variety of effects from doing the mindfulness exercises. Breathing techniques in singing include efficient and expansive inhalation followed by vocal support, or more specifically, fine control of the abdominal and intercostal musculature to produce optimum air pressure for connected, free production of tonal sound and desired pitching (Leanderson & Sundberg, 1988; Sundberg, 1992). A mastery of fine breath control is needed for excellent singing and every mindful exercise has breathing awareness at its core (Elliott, 2010). All participants said they used mindfulness exercises before some or all of their singing lessons. Mindful Movement is particularly useful as it encompasses posture, breathing, and gentle shoulder and neck stretches but, as is discussed below, some participants found other exercises suited them better. Jim felt that doing the mindfulness exercises before lessons helped him to focus and concentrate on the musculature he uses for breathing. This made it easier and quicker for him to identify anything that felt wrong, change it and gain success in this area of technique. Jim, in particular, was pleased that his teacher had become satisfied with his breathing technique

over the duration of the intervention saying: 'I think mindfulness has certainly helped me sort that side out, definitely.' Claire found the Body Scan helped during new technical work on vocal abdominal breath support. She described how different parts of her body tingled when she settled her mind on them during the Body Scan. This meant that when singing she was able to be conscious of her muscles and reported being 'aware of them working'. Grace also found that employing mindfulness exercises increased her awareness of the specific musculature involved in learning new abdominal breath support techniques because 'what I'd done in the lesson was more memorable'. Jim found that being more mindful enabled him to have a clearer memory of a new sensation and this made it easier for him to recall it later:

The hardest thing, I think, is knowing when it's right. When you're alert and knowing when you've got it right, being more aware in the lesson of the moment when you do get it right makes it easier.

It seemed that mindfulness exercises not only allowed the participants to learn technique in the lessons more easily and memorably but also to apply it more effectively. Mary, like Pippa, was not currently working on singing skills but as an experienced voice student she was asked for her opinion on the effects of mindfulness in learning technique. She hypothesised that, 'after a Body Scan, you're so aware of all the different bits (vocal principles) ... you'd be able to apply it (new singing technique) more easily having just isolated all those different bits'. The Body Scan was specifically adapted for the MfS course to enhance awareness of sensations in the vocal principles (e.g. the tongue, jaw, abdominal muscles) as well as general bodily awareness. Peter mentioned that after doing Mindful Movement and Breathing exercises he was more aware of the sensations of correct abdominal support in lessons. He was now able to take his new technique 'outside of singing lessons' suggesting that doing the mindfulness exercises before technique instruction had also helped him to remember new sensations more clearly, control them and apply them more effectively in other singing situations. Claire had a particular problem of extraneous tensions when singing. Being aware of minute physical musculature sensation changes is essential when learning to control the out-breath during abdominal support singing because too much or too little air pressure can strangle the voice with unnecessary strain. The Body Scan and Yoga exercises are designed to heighten awareness of extraneous and unnecessary tensions when lying down or in a pose. Claire employed the same skills learnt in those exercises, identifying and releasing the muscles that were unnecessarily gripped or tense, when working on her singing abdominal breath support. This helped her to use the correct musculature healthily and freely. Claire's experience supports the suggestion that practising mindfulness can help retrain bad singing habits (Elliott, 2010).

Doing mindfulness exercises before learning breathing techniques in singing lessons helped awareness of and ability to focus on body and musculature sensation, learning better muscular control, and in remembering and applying technique in other situations such as practice and performance and in solving issues of vocal tension. Joni, who was also a student choral director, had to explain singing breathing techniques to her group and found that participation in the mindfulness course had provided in-depth knowledge of the purpose of these breathing exercises, which had helped her in guiding others.

Mindfulness breathing techniques appeared to have a good impact on consolidating previously learnt singing breathing techniques and passing this on to others in a teaching capacity.

A second major theme representing the effects of mindfulness on learning singing was related to vocal sound, tone and text techniques. Jim, Peter, Roxie and Grace all worked on their tonal sound production during the intervention. Grace found that improving her breath support helped control her vocal tone and that the mindfulness exercises had enabled improved awareness of tonal errors. Peter was working on the tonal quality of his range and found that he was more mindful of the sound he was making which helped him to perform better after completing the mindfulness exercises. It can be difficult to hear one's own tonal development clearly but doing the mindfulness techniques appeared to help raise both these participants' awareness of their vocal sound quality. Jim found that the mindfulness exercises had helped him become more aware of his vocal sound and vowel shaping from a communication point of view, following criticism for a lack of clarity in his mock final year recital. He found that he was able to become increasingly aware of his sound colour in respect to word painting and became more effective at conveying emotion when singing. Doing mindfulness exercises before lessons seemed to help participants be aware of and improve their vocal sound, tone colour and text communication.

The third theme explores the effects of the MfS course on combining vocal techniques. Singing a song is a highly complex task and requires a large amount of simultaneous action and awareness. Jim found that when learning singing techniques that 'there's a lot to think about' and Grace mentioned 'it's working on remembering to bring them all together, doing them all at the same time'. Unlike Jim who practised mindfulness before every lesson and Grace who managed it before most lessons, Roxie admitted to doing exercises only before a few. She seems to have had limited success in improving her attention, which, she believes, was more dependent on her mood and on 'whether I was awake or not'. Huppert and Johnson (2010) found that more practice correlated with increased mindfulness skills, a possible explanation for Roxie finding less success than the participants who practised more. Grace, like the other participants working on singing technique, seemed to find that doing mindfulness exercises prior to singing lessons and practices most helpful in learning, remembering and practically implementing all the various aspects of singing technique in a variety of situations and saw a great benefit in doing the exercises when combining new vocal techniques.

Singing lessons and relationships

Every participant managed to do the mindfulness exercises before some or all lessons during the period of the course. Pippa, Joni and Claire felt that the act of taking 10 minutes in mindful preparation calmed and focused them and seemed to separate their singing lesson from other tasks in the day. Joni's teacher mentioned that she found her more settled in lessons. All the participants commented that they felt more aware, focused, concentrated or alert in their singing lesson after doing mindfulness exercises. Claire said she felt more relaxed and less stressed within lessons, something that Claire's teacher noticed. Mary felt she was 'more receptive in terms of what she's (her teacher's) saying', and their relationship was calmer. Peter felt more relaxed, less stressed and more aware of his own voice and the

teacher's examples. Roxie's teacher found she had become less impatient and listened better and Roxie discovered she was less likely to 'go off task' and just chat. Peter and Grace experienced an effect after a mindfully prepared lesson had ended. Peter thought more about what had happened within the lesson afterwards and Grace felt that the mindfulness helped her to have a productive lesson making her feel more positive. This encouraged her to practise more constructively during the week.

Doing mindfulness exercises before their singing lessons helped students to prepare, be more aware and productive within the lesson and retain information more effectively for practice purposes. These are all elements of 'self-responsibility', a student quality prized by teachers but suggested lacking by Gaunt (2008) in research looking at relationships between students and teachers in a one-to-one situation at the GSMD. These elements seem to have been enhanced here by mindfulness training.

Mindfulness in singing practice

The participants were asked if the mindfulness exercises they were encouraged to do prior to their singing practice had had any effects. Five participants felt it had helped them to get into what Joni termed, the 'zone of practising', where they were readier than normal to practise and more focused, which was echoed by the students at the music conservatoire in Hribar (2012). Like those students, Jim, Claire and Grace described their singing practices after doing the mindfulness exercises as more productive and effective. Jim and Claire found this increased productivity had encouraged practice sessions to become longer. For Claire, this was because practice had become less monotonous as she was more focused and her teacher also noted this extra practice. Conversely, Grace found that her practice time had become shorter due to better productivity. Roxie and Jim found their awareness of practice changed at a deeper level; for example, Roxie noted:

I was more aware of what I was doing but, at the same time, it's how I did it before, but being more aware of doing it, if that makes sense.

Jim described this same awareness as making his practice and work on technique more successful. Conversely, Peter changed the way he organised his singing practice. Sometimes he did not sing at all but was inspired to think deeply about the interpretation of his repertoire. This was reflected in positive comments from his performance classes 'in terms of interpretation as opposed to just sound'. Other effects were more participant specific. Roxie found the mindfulness exercises helped relieve her shoulder and neck stiffness thus aiding her concentration in singing practice. Grace had a 'bad practice day' and used mindfulness breathing exercises to help her focus with the effect that 'I didn't necessarily have the best practice after it but I was able to practise'. Peter was self-conscious practising in the School but doing the mindfulness exercises helped his concentration and creativity in practice reducing the fear of peer criticism and his final comment was 'I think in all my practices it's been really effective'.

Teacher study

All teacher participants (Tosca, Carmen, Mimi, Brünnhilde) were asked to name which of their University voice students (combined total number of students taught by these teachers at the institution, $n = 32$) they thought might have done the mindfulness course based on nothing but information about mindfulness research and the hypothesis of what might occur in students as a result of doing the course. The teachers correctly named 6 of the 8 participants.

Tosca (total number of students taught at the institution $n = 8$) identified Grace based on her behaviour change and technical success. Carmen (total students $n = 9$) identified Mary based on her development of stress management over the course of the intervention. Mimi (total students $n = 7$) chose two students who were not participants with a third possible candidate being Claire. Claire expected this saying 'My singing teacher has noticed that I'm a lot more relaxed and I don't look as stressed anymore'. Mimi had initially chosen two others because she thought that Claire had started taking antidepressant pills, though Claire did not mention this at any point in her interview. The teacher observed that Claire's 'change has been phenomenal' which tallies with Claire's own evaluations; she apportioned all her improvements to the mindfulness course. Mimi did not identify Jim but he did have the highest pre- and post-intervention mindfulness scores so his observable change may not have been so obvious. Brünnhilde (total students $n = 8$) correctly identified Pippa, Roxie and Joni but not Peter. Pippa seemed more attentive and quieter, Roxie would suddenly 'step back and seem to be listening' instead of rushing through the lesson impatiently. A similar effect has been found in school studies in both the USA and Britain (Desmond, 2009; Hennelly, 2011) where teachers had noticed attentiveness and listening both increased after mindfulness classes. Initially, Joni had been very self-critical and had found it hard to settle in lessons but over the intervention Brünnhilde said she had become 'a little more relaxed, taking time.' However, Peter had always seemed attentive and his behaviour did not appear to have changed; this was confirmed by the FFMQ scores. Neither Peter nor Jim were identified by teachers which is a finding comparable to research by Flook *et al.*, (2010) in which participants who demonstrated better executive function skills (e.g. planning, time management skills) pre-intervention showed less improvement post-mindfulness training.

General discussion

There are few projects researching the effects of mindfulness on musicians' performance (Oyan, 2006; Langer *et al.*, 2009) and well-being (Hribar, 2012; Steyn, 2013; de la Cruz & Rodríguez-Carvajal, 2014). This research project, utilising a newly developed eight-week Mindfulness for Singers (MfS) course, is the first known to explore the effects of mindfulness on vocalists in a learning context. Its primary aim was to explore the effects of the intervention course on participants' ability to learn singing technique. Five of the participants studied singing technique during the intervention, working on breathing and breath support, developing tone, sound colour, text communication and combining individual vocal principle technical mastery into a cohesive whole. These participants reported they had experienced, to a greater or lesser extent, a variety of benefits from the course and the mindful home practice exercises. They developed improved focus

and concentration in lessons and practice sessions, better memory of physical muscular sensations and a greater ability to apply new learning more effectively and efficiently. The reason for these benefits seems to stem from the mindfulness training, which enabled them to become more self-aware physically and aurally in the present moment. Participants in the current study became progressively aware of unnecessary vocal or physical tension and more capable of retraining bad singing habits and solving technical problems. Increasing awareness also seemed to help them consolidate previously learnt technique and be able to transmit this information to others in a teaching capacity.

After doing the mindfulness exercises, participants found their mindset for lessons and private practice was improved, an effect also observed by their teachers. They felt better prepared for the lesson, increasingly receptive of comments and examples from the teacher and, after a more effective and productive session, they felt more positive. Most participants found their private singing practice became increasingly effective, productive, focused and, in one case, new and creative working methods were developed in response to having greater awareness. Additionally, it is important to note that the mindfulness course designed for this study had positive effects beyond the participant's singing activities on their general life and well-being in the areas of stress-control, sleep issues and personal relationships.

A blind study revealed that participants' behaviour changes were observable by non-practitioners where six of the eight students were successfully identified by their teachers as having taken part in the course. Whilst it is acknowledged that teachers have varying teaching styles which could have influenced participants' progress over the eight-week period, the correct identification of the majority of participants who had taken part in the MfS course (from a possible total of 32) suggests that the mindfulness intervention was effective. If we compare this to previous blind control studies (there have been none relating to music, see meta-analysis by de la Cruz & Rodríguez-Carvajal, 2014), Grepmaier *et al.* (2007) found that Zen meditation (a form of mindfulness) training was observable in a double blind study involving 18 therapists and 124 psychotherapy patients. Therapists from the meditation group gave significantly higher evaluations of their patients in the areas of clarification and problem solving and the patients of these mindful therapists also showed greater symptomatic reduction.

In relation to methodology, both qualitative and quantitative methods were used to investigate the effects of the MfS course. The FFMQ was useful for identifying general trends and the average change in scores (pre- to post-test) across all participants was positive for all facets, with a particular increase for the Non-Judge (similar to Steyn, 2013) and Non-React facets. However, because the number of participants was small, it is difficult to make generalisations about the merits of the MfS course based on the quantitative data alone. Furthermore, the FFMQ is designed to measure general mindfulness rather than mindfulness in relation to singing. Devising a questionnaire specifically designed to test mindfulness improvement in musicians and singers, to be used in conjunction with the MfS course, should be a focus for future research. The major insights in this study stemmed from the participants' and teachers' interview data, and we would argue strongly that future studies should ensure that there is a reflective qualitative component to the evaluation.

From a practical point of view, it is unlikely that singing teachers have the time or expertise to give an eight-week mindfulness course to their students. Further research could investigate whether similar effects are engendered by the development of a less intensive and time-consuming intervention such as that put forward by Tang *et al.* (2007). In the research by Tang *et al.*, eight participants took part in 20 minutes of mindful practice for five days and showed significant decreases in anxiety and depression, and stress-related cortisol, and increases in vigour and immunoreactivity. A study isolating the most beneficial exercises for student singers by teaching different exercises to groups of a similar standard and experience could be valuable for the practical application of mindfulness in singing lessons. It would also be of benefit to explore the effects of mindfulness on a broader demographic, such as those who rely on their voices for their livelihoods (e.g. opera singers). A targeted questionnaire or measure specifically for musicians, as mentioned above, would facilitate these enquiries.

The results from this study combined with those from research in mainstream education (Napoli, 2004; Garrison Institute Report, 2005; Roeser *et al.*, 2012) suggest that it would also be interesting to study the efficacy of teaching mindfulness to new trainee singing and instrumental teachers or as a continued professional development for experienced singing teachers. In her book on generic teaching practices, Schoeberlein (2009) indicates that mindfulness training could enhance reflective teaching practices, personal awareness, combat the tedium of teaching repetitive examination repertoire and help ease the stress and strain of teaching as well as allowing teachers to introduce the concept to their students for their benefit. The principles outlined would also apply to singing teachers, and we suggest that this is an area ripe for future research.

Finally, being a musician is a demanding profession (Fishbein *et al.*, 1998; Gembris & Heye, 2011; Ginsborg *et al.*, 2012). Results from the current study suggest that further research exploring mindfulness with professional musicians would be useful in dealing with the stresses and strains of the performing industry; in helping to control nerves, combat or eliminate repetitive strain injuries; and for enhancing creativity in the moment on stage.

Conclusion

Singing is a holistic activity and encompasses all life experience. It is music produced and experienced in the most intimate way. Similarly, mindfulness is a holistic technique, which enhances moment-by-moment awareness, helps deal with fear, stress and anxiety and opens the practitioner in a new way to the world around him. This study is the first to investigate mindfulness specifically for singers, and the first to use a blind control design; it therefore makes a valuable contribution to the emerging field of music and mindfulness, and provides direction for future work. It has shown that mindfulness can marry beautifully and beneficially with the vocalist in their manifestations as student, teacher or professional performer to help them achieve their greatest potential, that of becoming a truly inspiring musician.

Notes

- 1 The KIMS (Baer *et al.*, 2004), the FMI (Buchheld *et al.*, 2001), the MAAS (Brown & Ryan, 2003), the Cognitive and Affective Mindfulness Scale (CAMS) (see Feldman *et al.*, 2007) and the Mindfulness Questionnaire (SMQ; Chadwick *et al.*, 2008).
- 2 <http://vimeo.com/89794536>.
- 3 As identified by participants on their registration forms.
- 4 The first author, who is not a Buddhist, was trained in secular mindfulness at a Triratna Buddhist Centre. She was aware of occasional use of religious-type content (use of Buddhist poetry, imagery, the request to use course leaders' Buddhist names and that 'Kindly Awareness' practice seemed similar to CofE Intercession prayers) and took every effort to address these issues when designing the secular MfS course. As a result there was no poetry in the MfS course and imagery was confined to every day student experience. Due to time constraints and to avoid clashing with MfS participants' potential existing belief systems, 'Kindly Awareness' practice was eliminated from the course.
- 5 A detailed overview of the development of the course can be found in Czajkowski (2013), which is available by contacting the first author, and the course is publicly available on the first author's website www.mindfulnessforsingers.co.uk.
- 6 One could argue that not reacting to one's emotions is antithetical to the notion of performance. However, reacting inappropriately to mistakes on stage or too deeply to heightened emotions in performance causing possible break down is detrimental. Exploring emotions in rehearsal is important but in performance it is the job of the singer to act and react to all stimuli whilst remaining in full control. Mindfulness for Singers participants did mention performance related effects, for example, a slowing of time perception allowing them to be more creative in the areas of dynamics, expression, vocal tone and feeling in control of the performance. None of the participants commented that being mindful in performance caused them to be less musically emotional or relate less to other musicians.

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Appendix. Mindfulness for Singers. Weekly session detail

	Discussion	Mindful Techniques	Weekly Practice
Week 1	Autopilot Habit awareness	Discovering the Breath 3 Minute Breathing Space	Mindful Movement Task: One Habit awareness
Week 2	Stress Body awareness Habit awareness Expectation and Reality Being and Doing mode	Body Scan Mindful Breathing	Singer's Body Scan Task: One Habit awareness
Week 3	Mindfulness and Illness Repetition Performance nerves Primary and Secondary Suffering Awareness of the pleasant	Mindful Yoga Mindful Breathing Counting Mindful Breathing Journey	Mindful Breathing Task: Awareness of the pleasant
Week 4	Being judgemental ABC model of emotions Dealing with criticism 'Cataloguing'	Body Scan Mindful Food Exercise Mindful Sounds practice	Mindful Movement Task: Mindful listening
Week 5	Awareness when walking Pre-performance nerves Present moment performance creativity	Sitting Body Scan Mindful walk on campus	Singer's Body Scan Task: Mindful Walking exercise Prepare 5 min song
Weeks 6+7	Performance Week Performance nerves strategies Creativity in performance – breathing Taking Criticism after – breathing	Mindful Breathing Mindful Movement	Mindful Breathing Task: Mindful Eating exercise
Week 8	Conclusion	Mindful Breathing Full Body Scan Mindful Yoga	

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