Evidence for Mindfulness: Impacts on the Wellbeing and Performance of School Staff

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Executive summary

Mindfulness involves learning to direct our attention to our experience as it is unfolding, moment by moment, with open-minded curiosity and acceptance. It is a skill that can be learned by practices, akin to meditations, that focus on immediate felt experience in the breath, body and mind.

Interventions which teach mindfulness are proliferating in all sectors, including most recently in education for students and staff. Conclusions here about the benefits of mindfulness for school staff are based on solid evidence of the impact of mindfulness on adults, and a growing and promising evidence base on the impact on children and young people. Randomised control trials (RCTs) with adults and young people have shown moderate impacts on mental and physical health, social and emotional competences, and performance of various kinds, and on many indicators of quality of life and wellbeing. MRI (brain scan) studies suggest that mindfulness meditation reliably and profoundly alters the structure and function of the brain to improve the quality of both thought and feeling.

Specific mindfulness interventions for school staff are now developing, some connected to existing school based programmes, others within teacher education.
There are currently 13 studies published in peer reviewed journals of mindfulness with school staff. They include 5 RCTs, 7 control studies, 3 before and after, and one qualitative study. They mostly use self-report methodology, but increasingly include tests of real world performance. Their findings echo the wider adult and workplace literature on the impacts of mindfulness, and show:

- **reductions in stress**, burnout and anxiety, including a reduction in days off work and feelings of task and time pressure, improved ability to manage thoughts and behaviour, an increase in coping skills, motivation, planning and problem solving, and taking more time to relax.
- **better mental health** including less distress, negative emotion, depression and anxiety.
- **greater wellbeing**, including life satisfaction, self-confidence, self-efficacy, self-compassion and sense of personal growth.
- **increased kindness and compassion** to others, including greater empathy, tolerance, forgiveness and patience, and less anger and hostility.
- **better physical health**, including lower blood pressure, declines in cortisol (a stress hormone) and fewer reported physical health problems.
- **increased cognitive performance,** including the ability to pay attention and focus, make decisions and respond flexibly to challenges.
- **enhanced job performance**, including better classroom management and organisation, greater ability to prioritise, to see the whole picture, to be more self-motivated and autonomous, to show greater attunement to students' needs, and achieve more supportive relationships with them.

This evidence base comes from well designed and implemented programmes, taught by skilled and well educated trainers with a personal practice of mindfulness. School staff need to themselves experience sufficient high quality education in mindfulness from well-educated trainers, and have a regular personal practice, in order to become skilled and authentic teachers of mindfulness and avoid doing harm.

Mindfulness for teachers is developing

Across the world there is currently a major growth of interest and activity around mindfulness in schools, with theory, practice, interventions, research, conferences and publications proliferating. The initial focus has been on teaching children and young people but there is now an accompanying and growing recognition of the need for mindfulness for school staff. School mindfulness programmes which focus on staff, either alone or as part of a programme for children and sometimes parents, are increasing in number and quality (Albrecht et al, 2012).

Mindfulness has always had a presence in schools, but as something of a fringe activity: it is now starting to develop fairly rapidly in mainstream schools around the world. Programmes for children and young people have increased apace: the Garrison Institute database (Garrison Institute, 2014) in the US currently lists 45 'contemplative education programmes'. The evidence base for effectiveness has been deemed 'promising' in 8 overall reviews (e.g. Mieklejohn, 2012; Weare, 2013). Mindfulness for teachers and other school staff is now increasing to match this growing field. Globally, there are a growing number of school-based mindfulness programs that involve teacher education: 22 of the Garrison database school programmes explicitly include teachers among their target audience and 5 of them focus only on teachers, including 3 in initial teacher education.

What is mindfulness and how is it learned?

Mindfulness involves learning to direct our attention to our experience as it is unfolding, moment by moment, with open-minded curiosity and acceptance (Kabat-Zinn 1996). Rather than worrying about what has happened or might happen, mindfulness trains us to respond skilfully to whatever is actually happening right now, be that good or bad. This includes paying close attention to inner states such as thoughts, emotions and physical sensations, as well as to what is happening in the outside world.

There are now mindfulness interventions for all ages, short and long, within a wide range of contexts including health, education, the workplace and parenting, and through many different media including face to face courses, self-help, on-line and apps. The core practices throughout these interventions are similar, with learners being encouraged to pay open minded and curious attention to their changing experience - the sensation of the breath, to passing sound, to the inner stream of thoughts, feelings and bodily sensations, to the 'everyday' and usually automatic experiences of moving, eating and washing, and being with and feeling kindly to the self and other people.

Case Study 1: A-Level Mathematics Teacher, Winstanley Sixth Form College College

"I tend to use Mindfulness to create pauses in my day. The sessions I hold for students are part of my own formal practice, but I do a lot of mindful eating, showering, as well as more 'heavy meditation' - 20-30mins sitting session - (but not as often as I should). I do tend to follow Jon Kabat-Zinn's recording. I like his style.

Mindfulness practice definitely makes me less reactive and more responsive and also proactive (instead of moaning). It also has a calming effect around me - students and colleagues."

How mindfulness appears to 'work'

Subjective changes

Over time those who practise mindfulness regularly report that they gradually learn to sustain and focus their attention and accept experience in a more curious, interested and open minded rather than a judgmental way, using felt physical sensations of the breath and the body as 'anchors' for the wandering and ruminating mind. They come to see thoughts as mental events that can be allowed to come and go rather than solid facts. This realisation helps loosen the grip of habitual, mindless 'auto-pilot' activity including depressive thoughts and worries, and produces less reactivity and impulsiveness, a greater ability to examine thoughts and feelings more rationally and to own them rather than blame others. Practice appears to gradually modify habitual mental and behavioural patterns

which otherwise create and maintain negative mental states, such as stress, depression and hostility, and enhance positive mind states such as calm, acceptance, compassion and happiness.

Changes in brain and body

There is a promising science emerging on how mindfulness 'works' at the level of brain/bodily physiology and functioning: its findings are starting to mirror the reports from subjective experience (i.e. what people 'feel' is happening).

Recent developments in neuroscience have demonstrated that the structure and function of the brain is by no means fixed in childhood, and that brains remain 'neuroplastic' i.e. changeable, throughout our lives. An increasing number of brain imaging/ MRI studies of the impact of mindfulness, mostly using RCT methodology, are suggesting that mindfulness meditation reliably and profoundly alters the structure and function of the brain to improve the quality of both thought and feeling. Mindfulness meditation appears to reshape the neural pathways, increasing the density and complexity of connections in areas associated with both cognitive abilities such as attention, self-awareness and introspection, and emotional areas connected with kindness, compassion and rationality, while decreasing activity and growth in those areas involved in anxiety, hostility, worry and impulsivity (Davidson et al, 2003; Davidson and Lutz, 2008; Hölzel et al, 2011a and b). Although the most striking changes are observable in long term meditators, short mindfulness interventions have clear and visible impacts on brain function and performance (Hölzel et al, 2011a).

Case Study 2: Educational Psychologist, North Yorkshire, working with children with a range of special educational needs.

"I learned meditation and made a decision to be more mindful about ten years ago. My life was a toxic mix of work, the menopause, teenage son, partner, and my mother slipping into dementia. I found that being mindful was the best way to cope with competing pressures, and when with my Mum I found it best to simply be "in the moment" without judgement.

My current mindfulness practice is a morning sit for 15 minutes. Life still has its stresses, but there seems to be more space now for creativity, joy and warm personal relationships.

One example of my mindful practice at work is doing a minute or two of mindful breathing before going into meetings, bringing me calm and helping me to focus on what is present."

Looking at tests of the impact of mindfulness practice on physiological indicators, signs are emerging that similar profound changes occur. RCTs have shown significant increases in the numbers of antibodies in the blood in response to an influenza vaccine among subjects in a mindfulness meditation group compared with those in the wait-list control group (Davidson et al, 2003; Davidson and Lutz, 2008). Pre-post analysis has shown that five days of twenty minute mindfulness meditations in adults improves immune-reactivity and decreases in cortisol (a stress hormone) (Hölzel et al, 2011a).

There have been specific studies of the impact of mindfulness on the physiology of teachers. An RCT of 82 female teachers taught an 8 week mindfulness course showed that those who practiced meditation more frequently after the course had lower blood pressure in response to a real life stressful task compared with a control group, five months after the course (Kemeny et al, 2012).

The quality of the evidence base

The overall evidence base for the effectiveness of mindfulness for adults is becoming well established across many areas. Well conducted RCTs have shown moderate impacts (statistically speaking) for mindfulness interventions for adults on a very wide range of outcomes and in a very wide range of settings. Reviews bringing together different studies have deduced reliably replicable impacts on mental and physical health, behaviour and performance of various kinds, and many indicators of quality of life and wellbeing (Baer, 2003; Mental Health Foundation, 2010; Zhoury et al, 2013). Most of the studies of mindfulness impacts rely on self-report, however a growing number use more 'objective' indicators including the performance of real life tasks and the measurement of physiological changes in brain and body: these include some studies of teachers, which will be described later. The research literature on adult mindfulness is now vast and the evidence on children and young people and the workplace growing rapidly: we will review the key evidence as it applies to teachers in this paper.

Promising results are emerging from early research with children and young people in health and educational settings: there are now about 50 research studies in peer reviewed journals, and 8 reviews and the number is growing exponentially as the field expands. There have been two meta-analyses (a type of study which amalgamates the results of many individual studies and looks at overall numerical effect) of mindfulness in schools (Zenner et al, 2014) and with children and young people (Zoogman et al, 2014). Both reviews suggest that mindfulness has a small impact on universal populations (i.e. for everyone), a medium impact on targeted populations (i.e. those with problems) and that its results echo those of the adult literature. Impacts appear to be particularly strong on mental health problems (Zoogman, et al, 2014) and on learning and academic achievements (Zenner et al, 2014):

other significant impacts include social/relational and emotional competences, self-awareness, and physical health and wellbeing.

There is also a growing body of knowledge on the application of mindfulness in the workplace in improving the health and wellbeing of staff, in improving physical and mental health, reducing job related stress and absenteeism, and increasing leadership capacity, work related satisfaction and performance (Chaskalson, 2011).

Specific studies of mindfulness for teachers are still relatively few, and those which include other school staff fewer still, but are rapidly increasing in number. There is one specific review of the field (Albrecht et al, 2012), conceptual and theory based papers are emerging (e.g. Roeser et al, 2012) and some accounts of work with teachers have been included in general reviews of mindfulness in schools (e.g. Mieklejohn, 2012; Greenberg and Harris, 2012). The search for this paper (in September 2014) found 13 empirical studies published in peer reviewed journals: 5 RCTs, 7 control studies, 3 before and after, and one qualitative study.

The field is clearly promising, not least as its findings echo that of work with adults in general and mindfulness in the workplace. We draw on this evidence base and will unpack the empirical studies in the discussion below.

Staff need first to learn mindfulness themselves

There is a growing concern among the leading institutions in mindfulness research and training that the over rapid and somewhat hyped spread of mindfulness in society is at risk of producing a dilution in quality and authenticity, and may even do harm (Guardian, 2014).

The evidence base for mindfulness is not random, it is derived from carefully designed and well conducted interventions taught by well trained and practising teachers and trainers. All the school and teacher programmes which have evidence of effectiveness have solid and exact training to support them, and make explicit the requirement that teachers continue to practice. (The often used analogy is with swimming – we would not expect children to learn to swim from someone who had never experienced being in water.)
Mindfulness is not a universal panacea and it is a powerful intervention. There are those for whom meditation may not be indicated and may be harmful, such as the currently depressed, and anecdotal evidence that deep and long periods of meditation can have adverse effects in some people (Perez-De-Albeniz and Holmes, 2000). Even short practices

are strong and can throw up a great many fundamental questions and a good deal of emotion (Crane et al, 2010). Teachers need to have experienced this non-cognitive, experiential and paradoxical process from within and with ongoing supervision, in order to guide students effectively (Crane et al, ibid; Albrecht et al, 2012). To be experienced as authentic, teachers need to be able to model and embody the particular qualities that mindfulness develops, such as open-ness, flexibility and non-judgment.

Based on three decades of evaluated experience of developing effective secular mindfulness training and the demonstrated centrality of teacher preparation (Kabat-Zinn, 1996; Segal et al, 2012), global centres of mindfulness research and training have put into place stringent standards for training and accreditation (e.g. UK Network for Mindfulness-Based Teacher Training Organisations, 2014).

The strong consensus is that schools need to seek out only programmes with a clear evidence base and work with trainers who have been educated to a high standard. Those who would teach to others need themselves to take on board the need for a commitment to ongoing personal practice.

Mindfulness and physical health and wellbeing

Overall impacts

There has been a wealth of the most robust type of study, the randomised control trial (RCTs, i.e. with two groups, one who receives the intervention and one not, with participants allocated between them at random) indicating the effectiveness of mindfulness in reducing an extremely wide range of physical health conditions in adults and young people. These include chronic pain, fatigue, cancer, heart disease, type-2 diabetes and psoriasis (Baer, 2003; Mental Health Foundation, 2010).

Some early evidence of the impact of mindfulness training for teachers on their physical health is now starting to emerge. Poulin et al, 2007, in a control trial found that teachers reported overall improvements in their physical health following an 8 week course; Jennings et al (2013) found a significant reduction in 'daily physical symptoms' of ill health from participants in their mindfulness programme for trainee teachers, compared with controls.

Case Study 3: Teaching Fellow & Course Director, University of Leeds

" I was really struggling with Asthma. I saw myself as an ill person rather than a person who happens to have an illness but is so much more than that. This is what mindfulness showed me.

My formal practice includes 40 min of practice a day divided into two meditations; one in the morning and one at night. I also have informal practice which includes mindful walking with a loving kindness element while I walk through the park to work.

I am actually now able to work full time and I was not able to when I saw myself as ill. Most recently I have been working on loving kindness. I found that I became angry very quickly with my students. I did not have any patience and did not listen to them when they told me something was challenging for them. Loving kindness has helped me feel kindness towards them and respond kindly with understanding. I realised how stressful my impatience was and both myself and my students. I can see they are so much happier with our interactions."

Mindfulness, stress and mental health

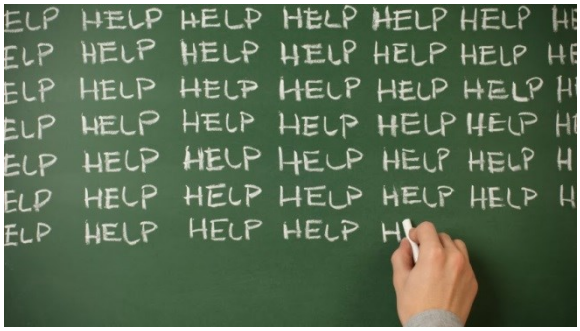
The extent of stress in school staff

One of the most frequent targets for mindfulness for teachers is stress. Workplace stress has generally reached epidemic proportions, with stress in the teaching profession being considerably higher than the workplace average, with over 80% of teachers reporting experiencing stress, anxiety and depression at work, and over 50% feeling 'severely' stressed (NUT, 2013). Teaching is the second most stressed profession, second only to ambulance driving. One in 1 in 3 teachers take sick leave annually, and more than half consider leaving the profession as a result of work-related stress. These stress levels appear to be rising inexorably year on year and their human consequences for physical and mental health are serious and wide-ranging: teachers have an increased risk of suicide and premature death. The perception and reality of stress in teaching gives rise to poor job performance, difficulties in recruitment, and to high and expensive rates of attrition in trainee and practising teachers (Bowers 2004; Howard and Johnson 2004).

The inherently stressful nature of working in schools

Some reported sources of stress are externally driven – they include workload, rising and unrealistic expectations, and externally imposed standards leading to a sense of a lack of

control (NUT, 2013; Gold et al., 2010). However, most may be seen as inherent in a job which is fundamentally extremely demanding and thus potentially stressful (Roeser et al, 2012). Teaching is at heart a social activity, and the teacher's day a relentless stream, or sometimes snowstorm, of interactions with colleagues, students and parents, in classrooms, staff rooms, corridors and playgrounds, which must be managed in situ as they arise. These interactions routinely involve uncertainty, and actual or potential conflict. To negotiate them successfully the teacher must constantly shift their attention, make moment by moment decisions, and carefully regulate and manage both their thinking, behaviour and emotions, in the direction of positive states of mind such as motivation, enthusiasm and self-belief, while managing distressing mind states such as frustration, lack of control, anger and fear, and all in socially approved ways (Chang, 2009).



The 'habits of mind' (Roeser et al, 2012) that mindfulness appears to be able to engender, such as mental flexibility, emotional regulation, and relationship management skills are therefore likely to be helpful, as we will discuss further below.

Case Study 4: Nursery Teacher, Coylton Primary School in South Ayrshire, Scotland

"I got into mindfulness when I started going to a weekly meditation class a few years ago but it took a while for me to develop a daily practice.

My mindfulness practice helps me to be more aware of the type of interactions I have with my pupils and colleagues. I talk a lot now in my classroom about kindness to each other and I encourage the children to pause and focus on their breath when necessary.

I am also more aware of my negative feelings and I'm getting better at noticing before they take control. I'm working at accepting what feelings are there. I am finding it a bit easier to distance myself from school politics…

I am generally more happy and calm at work now. I sleep better at night and so that makes it easier to cope with stresses of work.

My work/life balance remains unbalanced but I'm aware of that and try to make sure I do at least one nourishing thing every day.

I get up early every day to do my practice because I know that it benefits me and those around me. It's difficult to articulate what these benefits are because the changes have been small and gradual but enough that others have noticed."

Evidence for the impact of mindfulness on stress and mental health

Impacting on mental health problems is the area in which mindfulness has been shown to have its largest effects, in both adults (Virgili, 2013) and young people (Zoogman et al, 2014).

Evidence from studies of mindfulness for working adults has direct relevance for school staff. Virgili (2013) recently published a meta-analysis assessing the effect of mindfulness for working adults, for reducing psychological distress, specifically stress, anxiety and depression. They reviewed 19 mindfulness-based interventions, involving 1,139 participants. They found medium-to-large mean effect sizes for studies in both before and after and control studies, an effect which was largely maintained at a follow-up of around 5 weeks, and applied to short as well as longer interventions. In a larger meta-analysis on mindfulness and mental health problems, Khoury et al (2013) looked at 209 studies with 12,145 working adults and found a moderate effective size in both pre-post comparisons and control, including where the control was other types of psychological treatment – a tough test. Both meta- analyses concluded that mindfulness is an effective treatment for a variety of psychological problems in working adults and should be supported.

The evidence on the impact of mindfulness on depression in adults (e.g. Segal et al, 2012) and young people (e.g. Kuyken et al, 2013) is acknowledged to be particularly strong. The eight week Mindfulness Based Cognitive Therapy (MBCT) course is recommended for recurrent depression in adults by the UK National Institute for Clinical Excellence (NICE, 2009), a body who only respond to the most rigorous of research evidence. MBCT has proved to be twice as effective as treatment as usual for those who have experienced three or more depressives relapses. The mechanism by which mindfulness impacts on depression is currently thought to involve its ability to allow people to gain a sense of space and objectivity around their thoughts and 'unhook' from the automatic pilot of circular negative rumination (Segal et al, 2012; Hölzel et al, 2011b).

The evidence for the impact of mindfulness on anxiety is not quite as strong as for depression (Krisanaprakornkit et al, 2006) but is growing. The 'unhooking' mechanism is thought to be similar through improving the attentional focus on present experience (Semple et al, 2005, Hölzel et al, 2011b). It may also impact through increasing emotional regulation and impulse control (Peters et al, 2011) and the ability to relax (Singh et al, 2003). These possible mechanisms may start to explain the fairly reliable impact of mindfulness on anxiety/mood related problems such as insomnia (Yook et al. 2008), substance abuse (Bowen et al, 2014) and eating problems and disorders (Kristeller et al, 2006) in both adults and young people.

Evidence for the impact of mindfulness on stress and mental health in school staff

There are now several studies with school staff that are specifically demonstrating an impact of mindfulness on stress and mental health. We outline three of those that focus on stress and mental health specifically below – other studies that show a wider range of impacts, usually including stress and mental health, will be reviewed later.

Gold (2010) carried out a small scale before and after study on 9 primary school teachers and 2 teaching assistants in Wales, looking at the impact of the 8 week mindfulness based stress reduction (MBSR) course on stress levels among a range of other measures. The course impacted on their **depression, anxiety and stress, self-confidence and self-efficacy, their sense of task and time pressure, difficulties with planning and problem solving and taking time to relax**.

This was a promising study, but small and with no control: three larger and more methodologically robust studies, one of them an RCT have more recently focused on teacher stress, all with positive results.

Manas et al (2011) explored the efficacy of mindfulness training to reduce the levels of stress and the days of sick leave taken by 31 secondary teachers, 16 of whom formed the experimental and 15 the control group. There were significant **reductions in levels of teacher stress and the number of days of sick leave, as well as reduction in feelings of pressure, demotivation, and poor coping** in the experimental group compared with the control group.

Franco et al (2010) carried out a larger quasi-experimental study to examine the efficacy of a mindfulness training programme in a group of 68 Spanish secondary school teachers, divided equally between the experimental and control groups. **Levels of psychological distress showed significant reductions** in the experimental group which were maintained four months later.

Mindfulness and positive wellbeing

Focusing only on problems can be seen as a partial and negative approach: in recent years a new and welcome emphasis on positive psychology has resulted in a new 'science of wellbeing' or 'flourishing', which focuses on people's strengths and capacities, including resilience in the face of adversity, along with qualities such as optimism, fulfilment, meaning, kindness, compassion, and ultimately happiness (Huppert, 2014). Through rapidly developing work on social and emotional learning across the world (CASEL, 2014) fostering such positive qualities and capacities is becoming the aim in more enlightened schools, for both students and teachers, particularly as the evidence for their impact on academic learning and teacher performance increases (Zins et al, 2004; Greenberg and Jennings, 2009).

Several studies of young people have shown clear effects of mindfulness practice on wellbeing (e.g. Sibinga & Stewart, 2008; Huppert and Johnson, 2010; Kuyken et al, 2013). A modest impact on adult wellbeing has been shown by several studies of short mindfulness interventions (e.g. Goyal et al, 2014). Correlational studies have suggested that mindfulness as a trait is associated with better health and wellbeing in adults and young people, and that people who are more mindful generally experience more positive emotion, better relationships, greater wellbeing and less negative emotion and anxiety (Ciarrochi et al, 2010). Mindfulness has been shown to impact on many of the complex and interrelated mental qualities which underlie wellbeing, such as the ability to accept experience, to manage difficult feelings, to be resilient, motivated, persistent and optimistic, to enjoy good relationships and experience a sense of meaning.

Studies of teachers and school staff are starting to show the impact of mindfulness on wellbeing . **Beshi et al** (in review) evaluated the .b Foundations Course, which is a customised mindfulness-based programme for teachers: evaluations of versions of this course for young people have already shown clear impact on wellbeing (Huppert and Johnson, 2010; Kuyken et al, 2013). A sample of 89 secondary school teachers and other staff were recruited and divided into intervention and control groups. Participants reported significant improvements in **stress, wellbeing, mindfulness, and self-compassion.**

Case Study 5*:* Guidance Counsellor, Our Lady's College, Greenhills, Co. Louth, Ireland

"As a mother, grieving widow and a trainee guidance counsellor, I met mindfulness in my personal quest to cope. To cope with the new challenges I faced as a broken woman, a terrified single parent and a person who was waiting for the next thing to go wrong....this gift made sense. It took away the turmoil of the past through the practice of every breath of acceptance and it took away the ferocious fear of the future through each breath coming back to the now.....5 years later, working in a post-primary (secondary) school in Ireland, offering personal and educational guidance to over 700 students, mindfulness practice not only offers me the gift of self-care, of self-awareness and congruence with the students, but it offers me the ability to pass on a fundamental coping skill which can be practised perhaps at every moment or indeed recalled during moments of difficulty. There has been a myriad of challenging experience coming through my office door, yet it seems mindfulness can assist in almost all cases to offer the individual calm, clarity and a sense of safety in themselves.

I am delighted to be able to share my experience and learning with these young adults, and so thankful to have the opportunity to offer them a skill that someday may bring relief in hard times .....something I know would have helped me sooner had I had a mindful guidance counsellor in my youth!"

Emotional and social capacities

We have already suggested that the major source of stress in teaching is the relentless and moment by moment social and emotional demands it makes on the teacher. Effective teaching requires a great deal of emotional and social capacity and intelligence, to keep in touch with one's own and the students' thoughts, behaviour and emotional reactions, and respond appropriately.

Relationships and compassion – to the self and others

Teachers are driven people in a heavily scrutinised profession, and tend to be hard on themselves. Their general lack of self-worth is both triggered by and also adds to the stress they are under in managing their complex professional lives. Teacher sense of 'self-efficacy' (the sense of feeling good about oneself and confident in one's ability to make a difference) has been shown to be an important protective factor in resisting stress and enhancing resilience (Reilly et al, 2014).

Mindfulness practices have been shown to increase awareness of internal experience, promote reflection and self-regulation and increase self-acceptance (Baer, 2007). Dispositional mindfulness (the degree to which a person is mindful) has been shown to correlate positively with self-esteem, and self-acceptance (Thompson and Walz, 2008). Mindfulness practice with its basic focus on the non-judgmental acceptance of thoughts and feelings tends leads to greater kindness and compassion towards the self and thus to others (Gilbert and Choden 2013).

Teaching is centrally concerned with the ability to communicate, to make relationships with students, to motivate them, and to create a 'pro-social classroom' (Greenberg and Jennings, 2009). The same applies to educational leadership, where the key task is to 'resonate' with others, to bring out the best in them through inspiration and encouragement (Boyatzis, 2005; Goleman et al, 2013). Mindfulness has been shown to be helpful in building relationships, and predictive of a felt sense of relatedness and interpersonal closeness (Brown and Kasser, 2005; Brown and Ryan, 2004).

Some empirical studies of mindfulness with teachers are starting to demonstrate the ways in which mindfulness increases kindness to the self and others. **Benn et al (2012)** carried out an RCT to assess the efficacy of a 5-week mindfulness training programme for parents and educators of children with special needs, a particularly demanding and stress inducing group of children: both the children and those who care for them need a good deal of support and empathy. All of the participants demonstrated **positive increases, on average medium to large, in their mindfulness, awareness, patience, empathy, forgiveness of the self and others, and sense of personal growth, and reductions in stress and anxiety.** Specifically, participants were more conscious of the way they processed their emotions and were less judgmental and more tolerant of themselves and others. This effect increased with time, with all the participants showing even more elevated levels of awareness, patience, forgiveness, and compassion two months after the study.

Case Study 6: Teacher, Stanley Grove Primary Academy, Longsight, Manchester

"I was first introduced to mindfulness, in summer 2013, via the eight week .b Foundations Course. I was immediately impressed by the impact the course, and accompanying mindfulness practices, had upon my emotional health, with the foci being living 'in the present moment', concentrating my attention onto my breathing and recognising that thoughts are just thoughts, they are not reality.

Subsequently, I have undertaken the MBSR Course. I introduced morning mindfulness drop-ins for staff twice a week, which has impacted positively upon our team, and on our ability to teach, by having a calmer approach, coping more positively with challenging behaviours and our ability to manage stress.

I now embrace mindfulness as my way of living and thinking, continuing to undertake my own formal practices daily and taking part in our staff drop-ins. Embracing mindfulness and sharing with staff, I believe has impacted positively upon the relationships and culture within our School, where mindfulness is now a regular part of conversations and staff teaching."

Emotional regulation

A cornerstone of emotional and social ability is emotional regulation, which includes the ability to control impulses, delay gratification, monitor the attention, and thus make wiser choices about how to behave, choices that take feeling into account but are not de-railed by it. Emotional regulation is a key skill, fundamental to mental health, serving as a protective factor against the emergence of psychosomatic symptoms, especially anxiety (Campbell-Sills et al, 2007), and underpinning successful performance and adjustment for all kinds throughout life, including relationship building, leadership, learning, and teaching (Goleman, 1996). Teaching demands extremely high levels of self-control and patience, often in the face of considerable challenge.

There is emerging evidence too of the link between mindfulness and the ability to control impulsivity. It is based partially on promising evidence on the effect of mindfulness on habits and addictions linked with impulsivity such as gambling, alcohol and drug abuse (Peters et al, 2011). Mindfulness appears to develop the parts of the brain which govern emotional regulation and impulsivity, as shown on MRI scans (Goldin and Gross, 2010). The hypothesised mechanism at work is the training of the ability of the attention to 'be with' rather than react to experience, which appears to increase the crucial time lapse in the pathways in the brain between the impulse to respond to a stimulus or thought and the response (Hölzel et al, 2011b). This allows vital time for more considered choices to be

made. Improvements in self-control may also be connected with the related ability of mindfulness to trigger the relaxation response and induce a sense of inner calm (Baer, 2003).

An intricate and ground breaking RCT study by **Kemeny et al (2012)** of the 'Cultivating Emotional Balance' programme demonstrates the programme's wide range of impacts on the emotional and social capacities of teachers. Participants were 82 female schoolteachers, randomly assigned to a training group or a wait-list control group, and assessed before, immediately after and 5 months after training completion. Those who participated in the training reported **feeling less negative emotion, reduced feelings of depression and an increase in positive states of mind.** Five months after the training ended, these effects were still seen among those who had stayed engaged in the program over the intensive eight-week period, and were strongly correlated with the amount of practice.

Unusually the study also measured performance on real life behavioural tasks. The teachers had to perform a stressful task, either a mock job interview or a difficult maths task they attempted in front of an audience. **Those who had meditated longer during the program maintained lower blood pressure during the task, suggesting they were less stressed, while those in the training group recovered from the stressful task more quickly than the control group.** The programme seemed to increase compassion, with those in the training group exhibiting **greater feelings of compassion** when shown pictures of people suffering, being quicker to identify compassion-related words in a verbal task, better at identifying specific facial expressions—a core component of empathy. Participants were asked to discuss a provocative or upsetting relationship issue with their romantic partner: the teachers who had received the training showed significantly **less hostility or contempt** toward their partner. Most effects were maintained five months later.

Mindfulness and performance

In addition to being warm and approachable people, with high levels of emotional and social intelligence, teachers also need to be effective thinkers and decisive actors, with sharp minds to cope with the intellectual demands of their role. Through its central attitudinal shift from premature certainty and judgment to 'curiosity' as well as 'kindness', mindfulness gives rise to an open minded non-judgmental flexibility which underpins the ability to think clearly and act decisively, including under pressure, exercise discernment, make wise decisions, and seek for and deliver truth and understanding of various kinds – all of which are fundamental to the task of teaching (Roeser at al, 2012).

Mindfulness interventions have reliably been shown to enhance so called 'executive function' (a cluster of cognitive processes which includes focus, attention, problem solving, planning, and self-management (Elliott, 2003). Relatively short mindfulness interventions have been sufficient to improve mindfulness, visual-spatial memory, working memory and sustained attention (Jha et al., 2010 Hölzel et al, 2011a). Mindfulness has also been linked

with improved decision-making (Fiol and O'Connor, 2003), divergent thinking (Colzato et al., 2012), and creative problem solving (Ostafin and Kassman, 2012).

Schools may be interested in mental health and wellbeing, but they are centrally about teaching and learning: it is useful therefore to note that mindfulness is impacting directly on these goals. Several programmes in schools for students (e.g. Beauchemin et al, 2008; Franco et al, 2011) have been associated directly with improvements in students' academic learning and results. Similarly studies with teachers are showing the impact on several interrelated aspects of their teaching performance, illustrating how the social, the emotional and the cognitive work together in practice: we review them below.

Napoli, (2004) carried out a small scale study with depth interviews with 3 elementary/ primary school teachers on how learning mindfulness impacted on their teaching behaviour, student-teacher relationships and their personal lives. The study participants found that teachers used the mindfulness skills to aid in curriculum development and implementation and facilitate positive changes in the classroom. Specifically the mindfulness training **helped them teach in a less fragmented fashion and add greater depth of knowledge** to the learning experience. They reported that were able to readily **identify key conceptual competencies** they needed to communicate to children in subject areas such as science, by concentrating on the process rather than the outcome. They felt **less overwhelmed** by the curriculum and the learning outcomes they needed to get through, and started to naturally integrate mindfulness into the classroom to centre attention and engage student learning. The training also helped them to improve the quality of their personal lives and deal with conflict and anxiety.

Evaluations of two teacher education programmes demonstrate the impact of mindfulness training on many interrelated aspects of the classroom performance of trainee teachers.

Two pilot before and after studies by **Jennings, (2011) and Jennings et al., (2011)** of the Cultivating Awareness and Resilience in Education (CARE) program in the US carried out with student teachers, their mentors, and with experienced teachers, suggested **improvements in their ability to give more appropriate support for students** through being more motivated and autonomous. They also reported improvements in personal well-being. Experienced teachers reported feeling more able to manage their classrooms and have more supportive relationships with students. A follow up robustly designed RCT of the programme (**Jennings et al, 2013**) involved 53 participants in matched pairs of teachers by age, years of teaching experience, grade level, position, and school environment, randomly allocated to the intervention or wait-list comparison condition. The results showed **improvements in teachers' well-being, physical health symptoms, sense of efficacy in the**

classroom, stress, burnout, and mindfulness, all of which were **associated with teachers' reports of improvements in student and classroom outcomes**.

Poulin et al (2007, 2008) carried out two controlled evaluations in successive years of the Mindfulness Based Wellness Education (MBWE) program, an 8 week elective University course for trainee teachers. Both studies detected significant **increases in self rated mindfulness, satisfaction in life, health, and teaching self-efficacy**. Trainee teachers described being more able to take advantage of the "teachable moment" and monitor their own stress levels and the impacts of this on their class. Several were integrating mindfulness practice into their classes

Bringing all the impacts together

Mindfulness can be profoundly helpful in developing a wide range of interrelated capacities and fundamental attitudes and mind states, showing a breadth and depth of impact on the mind, body and life experience.

A study by **Flook et al (2013)** demonstrates how inter-related the impacts of mindfulness on teachers can be. They report results from an RCT of a modified MBSR course adapted specifically for teachers. Participants showed significant effects in a wide range of areas using a wide range of measures including tests of performance and physiological changes as well as self-report. There was a **reduction in psychological symptoms and burnout, improvements in observer-rated classroom organization and performance on a computer task testing the attention, and increases in self-compassion**. The control group participants showed **declines in cortisol (a stress hormone) over time and marginally significant increases in burnout.**

Conclusions

There are many reasons why the development of mindfulness for teachers and school staff is a welcome move. Mindfulness has the capacity to improve staff occupational wellbeing and job satisfaction, improve performance, and reduce the wasted expenditure and human misery represented by the many days of stress related sickness and attrition from the teaching profession. The evidence base for the beneficial impact of mindfulness on the young is growing rapidly and students clearly need teachers skilled in mindfulness to teach it.

Mindfulness courses are demonstrably more effective when taught by those who can understand from within what their students are learning, and model and embody the particular qualities that mindfulness develops, such as flexibility, attention, open minded curiosity, kindliness, empathy, compassion, acceptance, and patience, in their everyday interactions with children. These are skills and attitudes that underlie all effective engagement with young people: mindfulness for school staff clearly has a central role to play in educational improvement.

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