Mindfulness, Behaviour Change and Engagement in Environmental Policy

An Evaluation

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"The whole mindfulness movement for me is like gyms and jogging and running, you know there was a time when it was like "what the hell are you doing running around a common you know with a headband on, and now it is a massive industry and you are almost considered odd if you don't exercise regularly. You know mindfulness is like exercise for the mind [...]

Mindfulness, Behaviour Change and Engagement in Environmental Policy Participant

"For me it was a bringing together of something that I had seen as being in my personal life and something in my professional life, it was like a door opening between the two, in terms of practical application the main thing was really to do with how [...] you deal with difficult clients [...] the course allowed me to instead of really feeling that and holding that [...] it allowed me to look at my feelings and to realize that there was actually no need to get angry or upset, although that is a natural inclination, and then also to come up with solutions more, and also to feel compassionate towards the client"

Mindfulness, Behaviour Change and Engagement in Environmental Policy Participant

Mindfulness, Behaviour Change and Engagement in Environmental Policy: An Evaluation

Executive Summary

- Following completion of the Mindfulness, Behaviour Change and Engagement in Environmental Policy programme (hereafter MBCEEP), participants reported statistically significant increases in their understandings of key behaviour change ideas and concepts (including the role that emotions play in decision-making; the operation of mental shortcuts; and the role of social values and norms in shaping behaviour).
- From a practitioner perspective, it appears that mindfulness can provide a technique for developing awareness of various dimensions of human existence that are relevant for behaviour change (including automatic mind functions, emotions, physical feelings, environments, social context etc.); a framework for relating to client groups and communities in new ways; and a field technique for delivering behaviour change interventions with particular groups.
- MBCEEP not only generated new opportunities to regulate unhelpful emotional responses to situations, but it also gave legitimacy to recognize and use certain emotional responses as a basis for sound professional judgement.
- The MBCEEP had an impact on participants' relationship with their emotions. It appears that mindfulness training enabled participants to become much more aware of the interconnection between the felt senses of the body, their thinking and their emotional responses.
- The programme provided some participants with new ways of thinking about behaviour change (and in particular how behaviour change is connected to personal values), but it did not lead to a very clear sense of how mindfulness could support the practical application of behaviour

change in specific contexts, it is likely that more time is needed (both for reflection and application) for this potential to be explored.

- A consistent theme within the evaluation was participants' realization that mindfulness could offer: 1) a general training tool to enhance the effectiveness of behaviour change practitioners when delivering behavioural interventions; and/or 2) a technique to support behavioural learning and changes within client groups and communities.
- The MBCEEP proved helpful not only in testing the impact of mindfulness training on understandings of behaviour change theory, but also in providing a context within which behaviour change practitioners could begin to think through the different potential applications of mindfulness within the sector.
- The amount of mindfulness training time received by participants is particularly important in enabling them to translate the insights that they have gained in to their own behaviour into an appreciation of the challenges facing others attempting to change their behaviour. In this context it was significant that this course was the shortest the research team had run to date.
- Participants on the MBCEEP did not experience a statistically significant increase in their mindfulness traits based on the 5 Facets of Mindfulness Scale. Participants did, however, report that they experienced personally noteworthy increases in the mindfulness traits of non-reacting, awareness, and non-judging and a significant number stated they were likely to continue with the practice.
- Participants reported that the course had a beneficial impact on their personal and working life, including how they engaged with colleagues.
- Given the diverse ways in which mindfulness training could support the work of behaviour change organisations, to be successful participants suggested that mindfulness-based behaviour change learning needs to be clear about which of these particular contexts it seeks to target.
- In relation to participants who entered the programme with a fairly advanced existing knowledge of behaviour change ideas, it appears that the MBCEEP enabled them to perceive how mindfulness could support the development of more ethically oriented forms of behaviour change initiative.

1. Introduction

1.1. Some Back Ground

"What [the course] was really good at was helping us realize that we needed to look at our own behaviour and how we might be influenced and how if we want to change our behaviour what types of things we can think about"

MBCEEP Participant

This report provides a summary account of the evaluation that was conducted in conjunction with the Mindfulness, Behaviour Change and Engagement in Environmental Policy Programme. The Mindfulness, Behaviour Change and Engagement in Environmental Policy Programme (or MBCEEP programme) was developed in order to explore the extent to which mindfulness could provide an effective context through which to explore the emerging insights of the behavioural sciences and consider how these insights could be applied to environmental policy challenges.

The MBCEEP programme was delivered to 21 members of the environmental charity Global Action Plan. Established in 1993, Global Action Plan (hereafter GAP) works with businesses, schools and communities and provides behaviour change programmes that help people live more sustainably. The primary aim of the MBCEEP programme was to test the extent to which mindfulness training could provide a practice-based context within which those who make and deliver environmental behaviour change programmes could learn about the nature of human behaviour and how it can be transformed. The premise of the programme was to build participants' skills in paying attention and developing their capacity for meta-awareness. Attention practices focused on the processes of bodily sensations, thoughts and experiences (the practice of mindfulness), this was alongside introducing relevant and potentially complimentary information from the psychological and social sciences on behaviour change (particularly relating to cognitive biases, the nature of rationality, habit formation, and values).

Following an initial "taster session", the MBCEEP programme ran for four weeks in December 2014 and was led by Rachel Lilley (who is a mindfulness trainer and researcher at Aberystwyth University) with some input from Professor Mark

Whitehead (who is also based at Aberystwyth University). The programme was evaluated through three methods: 1. a before and after quantitative survey; 2. indepth qualitative interviews with participants; 3. a post-programme feedback/feedforward workshop facilitated by Rachel Lilley and Mark Whitehead. All of the sessions ran in association with the MBCEEP were held at GAP's offices in central London.

1.2. Goals

This report has four primary goals:

- 1 To provide an account of the ways in which it is possible to think about the relationship between mindfulness training and environmental behaviour change interventions.
- 2 To offer a synopsis of the design and delivery of the MBCEEP programme and the thinking that informed its development.
- 3 To offer a summary of the evaluations carried out as part of the programme.
- 4 To consider the implications of the MBCEEP for how we think about the role of mindfulness in society and how practitioners approach questions of behaviour change.

2. Mindfulness and Behaviour Change: Exploring the Connections

2.1. Introducing Mindfulness

The practice of mindfulness has a history that stretches back over two and a half thousand years. Mindfulness was originally a Buddhist practice that was recorded in the Satipatth \bar{a} na Sutta (the Discourse of Establishing Mindfulness, found in the Pali Canon). Mindfulness is often defined as present-centred non-judgmental awareness. While it originates in Buddhist traditions, the last forty years have witnessed the application of mindfulness in a wide range of secular therapeutic and professional contexts. The development of Mindfulness-Based Stress Reduction (MBSR) (which was introduced by Jon Kabat-Zinn as a practice for pain management), and Mindfulness Based Cognitive Therapy (MBCT) (which has been used to alleviate certain mental illnesses) are perhaps the most well known secular applications of mindfulness (Bodhi, 2013: 19-120; Williams, 2011). In the context of these prominent initiatives, it now appears that mindfulness is entering the social and political mainstream (see Bunting, 2014). The National Institute of Clinical Excellence (UK) recently endorsed mindfulness as a treatment for repeat episode depression, and it is now being used within the NHS as a recommended treatment. The .b Mindfulness in Schools Project (pronounced dot be) is promoting the use of mindfulness practices in education and exploring the ways in which it can be incorporated into curricula. Mindfulness is also being adapted to the corporate sector, with Google, EBay, Twitter and Facebook among a series of companies who promote the practice among their employees.

More recently, in the UK there has been a growing interest in the potential application of mindfulness within government. Governmental interest in mindfulness in the UK can be characterized in two main ways. First, mindfulness training is being offered to MPs and Lords in Westminster, and Assembly Members in the National Assembly for Wales. In this context, mindfulness is being deployed as a form of work-based practice designed to support political representatives in their day-to-day lives. Second, the UK government has recently established an All Party Parliamentary Group to study the benefits of bringing mindfulness into public policy. The Mindfulness APPG is supported by the Mindfulness Initiative, a coalition of Oxford, Exeter and Bangor Universities working 'to promote a better understanding of mindfulness and its potential in a range of public services'. Focusing initially on health, education, and criminal justice, the APPG is exploring the evidence base that could support the wider application of mindfulness techniques. As we discuss in

greater detail below, the provision of mindfulness training to MPs, Lords and Assembly Members, and the establishment of the mindfulness APPG resonates strongly with our own attempts to deliver mindfulness training within the Welsh Civil Service.

As a practice of present-centred awareness, mindfulness in its initial stages, involves the training of attention so that the we start to change our relationship with our everyday experience, and potentially meet it more fully. Mindfulness practices (including body scans, breathing exercises, and mindful movements, among other things) focus on guiding a dispersed consciousness back to the present, by developing an awareness of the processes of thoughts and feelings, through developing this capacity an individual can become more aware of when they are experiencing a more dispersed consciousness and the nature of rumination on past or future events, they can also become more aware of the reality of multiple task processing, or how emotions affect their decisions and behaviours.

The non-judgmental dimension of mindfulness supports people in becoming more aware and accepting of the mental, embodied and environmental forces that shape their experiences, without being reactive to or overwhelmed by them. In this way, mindfulness supports the development of attentiveness to the role of feelings and their relationship to thoughts, and the ways that thoughts potentially both are influenced by and generate certain forms of emotional response. The non-judgmental nature of mindfulness is important because it works against the normative labelling of what is observed as being either good or bad, or right or wrong and the potentially negative effects this has. Non-judgemental awareness thus supports a general training of awareness, which can have benefits in a range of situations.

At a practical level, mindfulness involves meditation techniques that can be carried out in group or individual settings. These practices are conducted while sitting down, lying on the floor, or walking. Mindfulness training programmes are often organized around or adapted from a standard 8-week courses, which constitute the basis of the MBSR (mindfulness based stress relief) and MBCT (mindfulness based cognitive therapy) programmes. The development and maintenance of a long-term mindfulness practice is, however, seen to be vital for the benefits to be felt. Beyond its therapeutic applications, mindfulness training is now associated with a range of beneficial impacts including improvements in physical health, supporting social relationships of various kinds, enhanced work-place performance and leadership, advances in learning capacities, and general increases in measurable forms of wellbeing (Rowson, 2014).

Despite the proven and potential benefits of mindfulness, it is important to acknowledge a series of questions that have recently been raised (for an overview see Halliwell, 2014). These questions relate both to the general use of mindfulness and to the ways in which it is being applied in secular, non-therapeutic contexts. In the first context, concerns have been raised that mindfulness is being too quickly adopted as a panacea-like solution to a range of social problems (Furedi, 2014). In the second instance, long-term mindfulness practitioners and teachers have claimed that care needs to be taken to insure that as mindfulness is adapted and applied within new contexts, that its core messages and values are not forgotten. In designing and delivering the MBCEEP programme, we were careful to address these issues. The intervention recounted here actually builds on a previous study which trialled the use of mindfulness practice as a basis for supporting sustainable behaviours. This study, which was conducted by Rachel Lilley, also involved interviewing a series of experienced mindfulness teachers and practitioners in order to collect their views on the potential connections between mindfulness and behaviour change in climate change and environmental sustainability.

2.2. Introducing Behaviour Change

The last decade has witnessed a transformation in the ways in which governments and policy makers understand human decision-making and behaviour. This transformation is often referred to as the *Behaviour Change Agenda*. At the heart of the Behaviour Change Agenda are two insights:

- 1. That although changing human behaviour remains a fundamental goal of government policy, public policy makers have found it difficult to change long-term behavioural patterns (particularly in relation to healthy living, sustainable lifestyles, and financial responsibility);
- 2. That human behaviour is more emotionally oriented than traditional theories suggest.

Primarily, recent behaviour change policies have been informed by the insights of the behavioural sciences (and in particular behavioural psychology and behavioural economics). These behavioural sciences suggest that while government policies have traditionally focused on the rational dimensions of human decision-making, which are triggered by the provision of information, regulation, or financial incentives (these forms of more deliberate decision-making are often referred to as System 2 thinking), a significant portion of human behaviour is actually shaped by unconscious, seemingly irrational, prompts (these forms of more intuitive decision-making are often referred to as System 1 thinking). These prompts include our emotional aversion to loss, our tendency to prioritise short-term gain over long-term

needs, humans' propensity to "blend-in" with what others are doing, and our collective preference for supporting the status quo over change (see John et al 2011: 14-18 for an accessible review of these behavioural traits). These behavioural tendencies not only result in people making habitual decisions that are not in their own long-term interests, but, perhaps more worryingly, they are behavioural triggers of which we are often unaware.



Emerging behaviour change policies have utilized the insights of the behavioural sciences in order to develop more emotionally literate forms of public policy. Related forms of policy use insights into the emotional aspects of human decision-making in order to make it easier for people make decisions that are in their own and society's long-term interests. A recent study showed that evidence of these forms of behaviour changing policies can be seen in 136 states throughout the world, with 51 governments developing centrally orchestrated policy programmes that strategically integrate the insights of the behavioural sciences into policy development areas (Whitehead et al 2014). The UK government's Behavioural

Insights Team provides the most discussed, and arguably the most developed, example of the application of the behavioural sciences into public policy-making. The UK's Behavioural Insights Team is applying the insights of the behavioural sciences to policy areas as diverse as charitable giving, energy conservation, taxation, and healthy living.

It is important to be aware of two popular misconceptions concerning the Behaviour Change Agenda. First, there is a tendency to equate behaviour change policies (and in particular the work of prominent groups such as the Behavioural Insights Team) with the popular notion of *nudge*. Nudges are behaviour change policies 'that alter[s] people's behaviour in a predictable way without forbidding any options or significantly changing their economic incentives' (Thaler and Sunstein, 2008: 6). A key characteristic of nudges is that they tend to target the behaviour of individuals and to focus on unconscious prompts to action. While nudge is clearly a prominent behaviour change strategy it is also apparent that the governments, NGOs, international organisations, corporations, and consultancies that advocate the insights of the behavioural sciences use a varied pallet of policy tools. These other policy tools, which include values-based approaches, co-design, connected conversations, and steering techniques, recognise the emotional aspect of human decision-making, but attempt to change behaviour through more consciously-oriented techniques.

A second misconception that surrounds the Behaviour Change Agenda is the relationship between System 1 and System 2 forms of decision-making. At one level, people often assume that more psychologically oriented theories of decision-making suggest that human behaviour is reducible to more intuitive, System 1 action. At another level, it is also assumed that in targeting System 1 decision-making behaviour change policies are trying to correct the inherent pathologies of automatic forms of behaviour. In the first instance behaviour change policies often involve developing policies that reflect human tendencies to respond to both rational and more automatic prompts to action. In the second instance, there is widespread acknowledgement that both System 1 and System 2 are vital for effective forms of decision-making and that policies should simply enable people to engage the system that is most effective in a given situation.

2.3. Mindfulness and Behaviour Change

For some time there has been an intuitive assumption that mindfulness practices and the insights of the Behaviour Change Agenda could be creatively combined (Rowson, 2011). At the simplest of levels, it has been suggested that the present-centred non-judgmental awareness associated with mindfulness could help people

to develop new relationships with forms of emotional, intuitively based System 1 behaviours of which we are often unaware. These ideas have been provisionally tested in studies exploring the role of mindfulness training in supporting proenvironmental behaviours (Lilley, 2012) and in helping to address addictive consumption practices (Armstrong, 2012). These studies have been based upon the hypothesis that mindfulness training can support the development of forms of neurological reflexivity through which people can begin to identify and understand the prompts that cause damaging behaviours and potentially establish new behavioural patterns (Rowson, 2011; Lea et al, 2014). It also reflects some of the research work on mindfulness and unconscious biases (Hafenbrack et al 2013). The study outlined in this report builds on this emerging body of work, but is distinct in at least two respects:

- 1. It seeks to systematically combine mindfulness training with the insights of the Behaviour Change Agenda. The MBCEEP programme was thus specifically designed to combine mindfulness training practices with a thorough introduction to the insights of the new behavioural sciences.
- 2. The course was designed for environmental behaviour change practitioners, within GAP and beyond. Previous studies have tended to focus on delivering mindfulness-based behaviour change training to members of the general public, or the application of standard mindfulness training to people with self-identified behavioural problems (such as addictive behaviours).

In order to understand better the potential utility of the MBCEEP it is important to reflect upon some of the concerns that have been raised with the Behaviour Change Agenda. These concerns can be summarised through the three e's of ethics, empowerment, and efficacy (Jones at al 2013). Ethical concerns have frequently been raised about the Behaviour Change Agenda. The uses of new psychological insights, which often target sub- (or semi-) conscious processes, to change the behaviour of individuals are always going to be open to charges of manipulation. In its Behaviour Change report of 2011, the House of Lords Science and Technology Select Committee argued that behaviour change interventions needed to be transparent so that they could be subject to appropriate forms of public scrutiny (House of Lords, 2011: pages 108-109). Related ethical concerns have been raised regarding whether the Behaviour Change Agenda reflects an unwarranted intrusion by the state into the private lives of its citizens (House of Lords, 2011: para.2.19). Connected to these ethical questions have been discussions about the relationship between behaviour change policies and empowerment. Some commentators have argued that in attempting to correct the behavioural errors generated by System 1 thinking, policy-makers are acting in ways that are disempowering to citizens. It is claimed that by subtly changing choice architectures

in order to nudge people towards more favourable behaviours, policy-makers are depriving individuals of the chance of understanding and shaping their own behavioural destinies (Furedi, 2011). Related critiques claim that the Behaviour Change Agenda actively undermines people's autonomy not only because they are often not aware that they are being nudged, but because they lose the opportunity to make warranted mistakes and to subsequently enhance their own behavioural learning and sense of moral independence (Furedi, 2011: 135). The final group of critiques surrounding the Behaviour Change Agenda questions its efficacy. These critiques suggest that while nudge-type policies are successful in changing simple behaviours over short periods of time, they are a lot less successful at transforming more complex habits over people's life cycles (Jones, et al 2013). Those questioning the efficacy of behaviour changing policies often point out that related policies seek to change the behaviours of individuals but not the individuals and the societies they inhabit (Crompton, 2010).

In developing the MBCEEP programme we were interested to see the extent to which mindfulness training could help to address the questions of ethics, empowerment, and efficacy that have been levelled at behaviour changing policies. As regards ethics, we believe that the participatory nature of mindfulness training would help to ensure that attempts to change behaviour through the MBCEEP programme would be open and transparent. In addition, we felt that attempting to understand behaviour change in the context of mindfulness training would ensure that related interventions would be carried out with due concern for the particular circumstances and experiences of participants. In relation to questions of empowerment, we were keen to explore whether both learning about behaviour change and utilising mindfulness practice to do it, would enhance participant's understanding of their own behaviours, and thus enable them to shape their own behaviours more effectively in the future. We were particularly interested to see the extent to which mindfulness training could enable people to become more aware not only of the impact of the intuitive and emotional dimensions of System 1 processes, but also of the role of System 2 thinking on their behaviour. In this way, we are keen to explore the extent to which participants on the MBCEEP become more aware of the complex ways in which System 1 and System 2 thinking interact and the positive and negative impacts which these systems have on their actions. In relation to efficacy, it is our intention in the future to explore the impact of mindfulness-based behaviour change training on long-term, complex behavioural patterns (although this is a project that is beyond the scope of the programme outlined here). In particular we are interested in the extent to which mindfulness may provide a context within which to engage with the values that appear to be so important to sustaining a commitment to behaviour change over longer periods of time.

In attempting to explore some of the critiques that have been levelled at the Behaviour Change Agenda, the MBCEEP programme ultimately addresses an issue that lies at the very centre of the contemporary behaviour change debate. This issue concerns whether the behavioural biases and heuristics that often lead to harmful behaviours, are an unavoidable part of the human condition or can be changed and transformed. On one side of the debate is the Nobel Prize winning scholar Daniel Kahneman, who suggests that we cannot simply learn to switch of the behavioural biases that emerge out of System 1 thinking and intuition (Kahneman, 2012). There are others, such as the eminent psychologist Gerd Gigerenzer, who claim that humans have the capacity to become more behaviourally "savvy" and to control their automatic selves (Gigerenzer, 2014). The MBCEEP programme is predicated on the hypothesis that when combined with learning about behaviour change, mindfulness training can enable people to take greater control of their own behavioural systems and lead more empowered lives.

The Mindfulness, Behaviour Change and Engagement in Environmental Policy 4-Week Programme

The table below provides a brief overview of the MBCEEP programme and the ways in which the individual sessions were structured. At this point is important to note that the MBCEEP policy reflects a 4-week adaptation of an 8-week Mindfulness, Behaviour Change and Engagement in Public Programme which the authors of this report had developed and delivered to civil servants working in the Welsh Government (see Lilley et al, 2014).

3.1. Summary of course plan

The course is based on the eight-week standard MBCT course, but with a theoretical base drawn from behavioural economics, behavioural psychology and sociology. Each session included:

- A check in
- Practice (e.g. body scan, sitting/walking meditation, sounds and thoughts meditation)
- Pair and group reflection
- Theoretical reflection (e.g. exploring habit formation, the nature of System 1 and System 2 thinking, and heuristics)
- Close

Between each session participants received support information:

- Via Mailchimp
- Via a group Facebook page

motivations for doing the course.

Via responses to queries sent directly by email to the trainer
 Each participant had an interview with the teacher at the beginning of the programme to clarify the practice requirements and their areas of interest and

Lesson	Mindfulness theme	Behaviour change	Mindfulness Practice
Taster	Raisin/Chocolate practice, reflection, questions	Overview of behaviour change	Mindful chocolate eating/breathing space
1	Automatic mind and role of attention	Automatic mind System 1 and System 2 thinking	Raisin exercise
	Breathing and body		Body scan
	meditation		Breathing and body meditation
2	Embodied awareness –	Cognitive neuroscience and unconscious biases	Body scan, Breathing space
	Breath, body, sound and thought meditation		Breath, body, sound and thought meditation
			Positive emotion – short positive emotion meditation, using felt sense and analysis of what feeds, what drains.
3	Awareness and embodying practices to develop increased awareness of reactions and patterned responses.	Cognitive psychology – frames/priming/intro to values .	Breath, body and sound, thought meditation Breathing space
			Some mindful movement
			Dealing with difficulty meditation
4	How Mindfulness and behaviour change create meaning to 'stories we create'. Looking at understandings and meanings.	Social practices and the ISM model Internal conditions, external conditions, past (experiences, associations)/ future (expectations/goals)	Bringing practices together and making existing practice length longer.

As this table illustrates, the MBCEEP programme is both a work-based training programme with wide-ranging implications for people's working and private lives, and a more bespoke programme of training for behaviour change professionals.

3.2. Key Terms Glossary

Automatic Mind: The cognitive processes that are involved in making decisions without having to engage in effortful thought. The automatic mind is actually responsible for a significant portion of all human decision-making, although we are often not conscious of its role in guiding our daily actions.

ISM Model: An integrated model of behaviour change developed by Andrew Darnton (Darnton and Evans, 2013). The ISM model draws attention to the role of individual (habits and values), social (norms and networks) and material (infrastructures and rules and regulations) factors in shaping human behaviour.

Unconscious Biases: Behavioural shortcuts that we use to assist in decision-making. Researchers have identified over 100 of these biases (or heuristics). Prominent behavioural biases include the status quo bias (the tendency to continue behaving in the way you have previously done); loss aversion (the human propensity to dislike loss more than to favour gain); and future bias (the proclivity to favour benefits in the here and now compared to ones that only accrue over longer periods of time).

4. Evaluation Results

With all the focus on quick gains to health and happiness, there may be something deeper to these practices that our positive-results focused science and culture is missing.

- Halliwell, 2014

4.1. Evaluation Methods

In order to evaluate the impacts of the MBCEEP programme we developed a mixed methodology approach. This mixed methodology had three components:

- An online survey that all participants were invited to complete.¹
- In-depth semi-structured interviews with a sample of 3 of the participants.
- Feedback and "feed-forward" workshop convened at the end of the programme.

4.1.1. Online Survey

We developed an online survey (using Qualtrics software) to evaluate the impacts of the MBCEEP programme. Participants completed the survey before the MBCEEP programme began, and immediately after the course was complete. The precourse survey combined a self-assessment of participants' knowledge of the principles of behaviour change (including topics such as habit formation, heuristics, and the role of emotion in decision-making) with the 39-point Five Facets of Mindfulness Questionnaire. In addition to the 49 questions contained in the survey that was completed by participants before they took the programme, the post-course questionnaire also contained questions that enabled participants to reflect on the impact of the course.

4.1.2. In-depth Interviews

Although the online survey provided some important quantitative measure of the impacts of the MBCEEP programme, we recognised that much of the impact of the course could be missed by a series of pre-set questions with standard response

¹ 18 participants completed the pre and post-course questionnaires.

formats. We consequently carried out a series of 3 in-depth interviews with a purposive sample of participants. We selected participants to be interviewed on the basis of their attendance rates on the MBCEEP programme and their gender. We interviewed two male and 1 female participants. The interviews were carried out via phone, and lasted between 20 and 30 minutes. The interviews explored various aspects of the course and its impacts on the working and private lives of participants. Particular emphasis was given in the interviews to the level of success the programme was able to achieve in bringing together mindfulness and behaviour change insights.

4.1.3. Feedback and Feed-Forward Workshop

At the end of the MBCEEP programme a feedback and "feed-forward" workshop was convened. This workshop involved all of the participants on the course, along with the MBCEEP programme leader and a researcher from Aberystwyth University. The workshop provided a small and whole group context for discussing the strengths and weaknesses of the programme and its impacts. It enabled qualitative feedback to be gained from participants on the course who had not been interviewed. In terms of feed-forward, the session also involved discussion of how the insights of the MBCEEP programme could be integrated into the wider working of GAP. Three note takers recorded the conversations that were held during this workshop. These notes were typed-up and have been included in the evaluation of the programme.

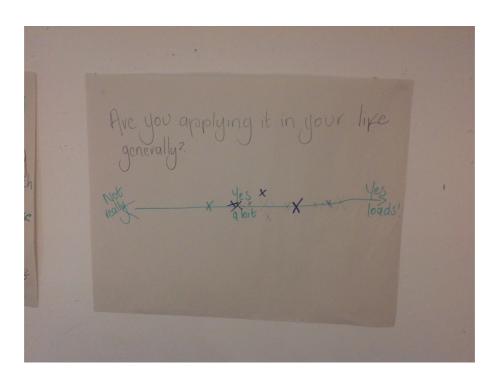


Image from Feedback/Feed-forward session

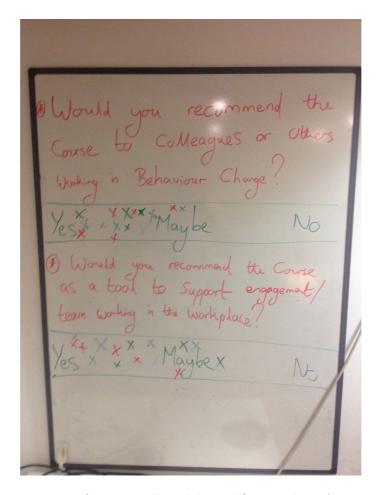


Image from Feedback/Feed-forward session

4.2. Key Results

4.2.1. Understanding Behavioural Change

The online survey asked respondents to reflect upon their knowledge and awareness of 8 key behaviour change themes (as listed below).

- I am aware that my mind often works on 'automatic pilot'
- I am aware of how the surrounding environment can affect my behaviour
- I am aware of how different emotions can affect my behaviour
- I am aware of how mental shortcuts (such as confirmation bias and future discounting) can affect my behaviour
- I am aware of how my values and beliefs can affect my behaviour
- I am aware of how social norms can affect my behaviour
- I understand why others find changing their behaviour difficult

- I empathise with the difficulties others experience when trying to change behaviour

Our survey revealed that participants experienced a statistically significant increase (at the 95% confidence level) between the start of the programme and its end in their agreement with the statements:

- I am aware that my mind often works on 'automatic pilot'
- I am aware of how different emotions can affect my behaviour
- I am aware of how mental shortcuts (such as confirmation bias and future discounting) can affect my behaviour
- I am aware of how my values and beliefs can affect my behaviour
- I am aware of how social norms can affect my behaviour

This finding is particularly interesting given the fact that some of the participants who completed in-depth interviews reported that they had a good working knowledge of behaviour change concepts before they began the course.

It is interesting to note that when this course was run previously as an 8-week programme (see Lilley et al 2014) agreement with the following three statements was also seen to go through a statistically significant change:

- I am aware of how the surrounding environment can affect my behaviour
- I understand why others find changing their behaviour difficult
- I empathise with the difficulties others experience when trying to change behaviour

Given that that there was not a significant change in the level of agreements recorded for these statements on the 4-week MBCEEP programme, it is worth reflecting on this difference. You would naturally expect the extra 4-weeks of practise and training offered within the 8-week programme to result in deeper levels of understandings of behavioural insights. On the basis of these results, however, it appears that the extra training time is particularly important in relation to translating the insights that participants have gained in to their own behaviour into an appreciation of the challenges facing others attempting to change their behaviour.

It is interesting to note in this context that feedback, received both within the group feedback/feed-forward session and the in-depth interviews, suggested that participants felt that they would have benefited from both longer individual training sessions and a longer overall course. A clear preference was expressed by participants for an 8-week as opposed to 4-week programme.

4.2.2. The Five Facets of Mindfulness and the impacts of mindfulness training.

Our survey of the Five Facets of Mindfulness indicated that participants did not experience a statistically significant increase in their mindfulness (at the 95% confidence level). We believe that this result should be interpreted with caution. The Five Facets of Mindfulness framework offers a fairly limited scale upon which to test changes in mindfulness traits. Furthermore, when we asked participants to assess the extent to which they felt they had seen an increase in mindfulness traits within themselves following the course, the responses showed they experienced noteworthy increases in the traits of non-reacting, awareness, and non-judging.

The online survey revealed that participants reported that the course had a beneficial impact on their personal and working life, and how they engaged with colleagues. In terms of the benefits, participants reported that the greatest benefit of the programme had been in relation to their personal lives. Qualitative evaluation of the MBCEEP was able to explore these impacts in greater depth. A particular theme that emerged both within the group feedback session and in-depth interviews was participants' changing relationship with their emotions. It appears that mindfulness training enabled participants to become much more aware of the interconnection between the felt senses of the body, thinking and emotions. As one participant observed,

"The connection between the physical manifestations of the body and then what is going on in the mind and the tie between the two has been really important, and observing that"

MBCEEP Participant 1

In this context it appears that the mindfulness training offered on the programme did enable certain participants to attend to the role of both thoughts and feelings in generating different emotional responses to situations, and to begin to change the way in which they responded to the emotional difficulties that routinely emerge in the workplace. This form of emotional awareness appears to be important when managing relationships with others in the workplace and with external clients,

"For me it was bringing together something that I had seen as being in my personal life and something in my professional life, it was like a door opening between the two, in terms of practical application the main thing was really to do with how [...] you deal with difficult clients [...] the course allowed me to instead of really feeling that and holding that [...] it allowed me to look at my feeling and to realize that there was actually no need to get angry or upset, although that is a natural inclination, and then also to come up with solutions more, and also to feel compassionate towards the client"

MBCEEP Participant 1

In addition to becoming more aware of the role of emotions in daily life, the MBCEEP also appears to have provided a context within which it became possible to be collectively more open and accepting of the presence of emotions in the workplace. This collective acknowledgment of emotions appears to have emerged from both the mindfulness practices themselves and the particular dynamic that emerged from participating in the MBCEEP as part of a working team. As one participant reflected,

"[A]s a bringing together of staff and from a strategic people point of view and having space to express vulnerability [...] talking about what kind of weather we were or having silence together, I thought [the sessions] were quite powerful"

MBCEEP Participant 1

In the group feedback/feed-forward sessions we held participants reported that following the MBCEEP programme there had been a greater willingness within working teams to acknowledge and address different manifestations of emotional response to particular situations and projects. It appears that this development is a product of both the recognition of emotional responses (based on mindfulness practices) and the more open discussion of these emotions (within MBCEEP group

reflections). Related to this point, one participant observed that they felt following the programme that they were "owning their feelings more. It is OK to say I am not happy with this because of the way it makes me feel" (MBCEEP Participant 2). In this context it appears that the MBCEEP not only generated new opportunities to regulate unhelpful emotional responses to situations, but it also gave legitimacy to recognize and use certain emotional responses as a basis for sound professional judgement. Significantly, the role of emotions as a valuable form of intuitive wisdom (as well as a source of predictable behavioural error) is a key insight to emerge from the behavioural sciences (Gigerenzer, 2007).

The fact that the 14 participants (who completed the end of programme survey) stated they would *probably* or *definitely* continue with some form of mindfulness practice reveals the clear benefits that were associated with the mindfulness dimensions of the course.

4.2.3. Mindfulness and Behaviour Change

General Impacts

Given that it is hard to measure quantitatively the direct impact of the mindfulness dimensions of the MBCEEP programme on participants' understanding of the principles of behaviour change, evaluation of this part of the programme relied on qualitative measures.

Feedback received from the feedback/feed-forward session and in-depth interviews indicates that the 4-week programme had mixed results in relation to the connections it was able to make between behaviour change thinking and mindfulness. One participant, for example, observed,

"[the programme] conjured-up ways in which you could look at that theory (Behaviour Change) in a different way or the way it connected together, particularly in relation to the values side, but we never really explored it fully [...] it did not feel like we got to a place where we could say OK now I have something I could start applying"

MBCEEP Participant 2

It appears that the programme did provide some participants with some new ways of thinking about behaviour change (and in particular how behaviour change is connected to personal values), but that ultimately it did not lead to a clear sense of how mindfulness could support the practical application of behaviour change in specific contexts. Results indicate that the programme was most helpful to those with an existing knowledge of behaviour change ideas who were able to refine and deepen their understandings through mindfulness training. For participants with less knowledge and experience of working with behaviour change ideas it appears that it was more difficult to perceive the connections between mindfulness and behaviour change.

In relation to participants who entered the programme with an existing knowledge of behaviour change, it appears that the MBCEEP did enable them to perceive how mindfulness could support the development of more ethically oriented forms of behaviour change initiative. One participant thus stated,

"You can obviously help people to change by using the dark arts of persuasion science, where they don't actually know that you are doing anything or nudge [...] [but] you are not being completely honest with people [...] whereas mindfulness and linking it with values more I think gives it a more potentially ethical approach"

MBCEPP Participant 2

It was, however, suggested that the ethical application of mindfulness based behaviour change could be limited by the nature of the behavioural intervention that is being pursued,

"There is a difference between when we are asked to change people's behaviours that they want to change and when we are asked to change behaviours when they don't want to change, so that to me is a bit of distinction of where mindfulness is more or less useful [...]"

MBCEEP Participant 2

While it is clear that mindfulness-based behaviour change would work best in situations where people actually want to change their behaviours in certain ways (perhaps reducing the size of their carbon footprints; or their amount of food waste they produce); it is interesting to consider whether mindfulness could offer a context for addressing behaviours individuals do not want to change (perhaps eating meat, or holidaying in distant destinations). Future research could thus usefully consider whether mindfulness could provide a context within which people could become more aware of why they are so unwilling to change certain behaviours and to question the bases of related forms of intentional behavioural inertia.

Exploring the connections

A consistent theme to emerge from the evaluation was the question of how it might be possible to think about the connection between mindfulness and behaviour change for an organization such as GAP. While there did seem to be some degree of uncertainty relating to how mindfulness and behaviour change could be connected, it appears that the programme did lead to the development of some valuable perspectives on these connections. One participant thus asked,

"Was [the programme] about being more aware of mindfulness for ourselves and how we deliver behaviour change programmes, or was it more about how we could use mindfulness within our behaviour change programme?"

MBCEEP Participant 2

A consistent theme within the evaluation was participants' realization that mindfulness could offer: 1) a general training tool to enhance the effectiveness of behaviour change practitioners when delivering behavioural interventions; and/or 2) a technique to support behavioural learning and changes within client groups and communities. The multiple applications of mindfulness-based behaviour change techniques was echoed in written feedback that was received following the feedback/feed-forward workshop. One group suggested that mindfulness and behaviour change could be connected in four contexts,

- 1. How much of human behaviour is driven by autopilots and how mindfulness can help us understand these;
- 2. Just "being" with other people's situations/reactions/feedback and perspectives rather than reacting to them can help increase connection with the people whose behaviour we seek to change;
- 3. Creating the right atmosphere for change and the intentional use of silences as tools for changing behaviour particularly in youth work where environments can be very cluttered and noisy [...]
- 4. Understanding the impact of personal physical feeling (body scan/check-in), environment, time of day, social context, food, drink etc. on propensity to carry out different behaviours all have an impact mindfulness makes us more aware of them and their relative importance.

Correspondence received following feedback/feed-forward session.

From a practitioner perspective it appears that mindfulness can provide a technique for developing awareness of the various dimensions of human existence that are relevant for behaviour change (including automatic mind functions, emotions, physical feelings, environments, social context etc.); a framework for relating to client groups and communities in new ways; and a collective field technique for delivering behaviour change interventions with particular groups. On the basis of these insights, the MBCEEP appears to have been helpful in not only testing the impact of mindfulness training on understandings of behaviour change theory, but in providing a context within which behaviour change practitioners can begin to think through the different potential applications of mindfulness within their sector.

Reflecting on the insights we have gained from behaviour change practitioners working within GAP and other organizations (see Lilley et al 2014), we have identified at least 5 contexts within which mindfulness could be relevant for behaviour change interventions:

- 1. As a direct tool for facilitating behaviour change (with mindfulness being practiced by targeted individuals and communities);
- 2. As a training tool for behaviour change practitioners supporting the development of understanding of key behaviour change principles.

- 3. As a training tool for behaviour change practitioners to support the way in which they listen to and relate to client groups and communities with which they work.
- 4. As an in-house training tool for behaviour change organizations to support changes in the internal workings and norms of an organisation.
- 5. As a technique that can be used to enhance the attention-based qualities that can support the effective evaluation of behaviour change programmes.

It is clear that to be successful mindfulness-based behaviour change learning needs to be clear about which of these particular contexts it seeks to target.

4.2.4. Additional Reflections on the MBCEEP programme

Working Life and Working Relations

The in-depth interviews and feedback/feed-forward sessions revealed a series of other pertinent themes and issues. At a very simple level, for example, it was noted that the regular MBCEEP sessions appeared to be something participants actively looked forward to as part of the working day. As with many work-based mindfulness programmes, participants also reported generally feeling a lot less stressed at work having taken the course. In addition participants noted that the group sessions provided a valuable context for team sharing and getting to know work colleagues in a different (potentially deeper) way. One participant observed,

"The group discussions we had with colleagues [...] it gives you a different side to people, because you don't normally talk about how your brain is working, about the internal dialogue that you have, how you found this bit easy, but this bit tough"

MBCEEP Participant 1.

In general it was felt that carrying out a course like this in the workplace provided participants with a shared set of experiences and understandings upon which the

programme and related discussions could be based. It was also noted that the MBCEEP was helpful in supporting innovation in the workplace and giving legitimacy to out-of-the-box thinking and approaches to problems. It is important to note, however, that despite the workplace benefits associated with the MBCEEP programme, one participant observed that these benefits could, in part, be a product of the fit between the programme and the working culture in GAP. As a relatively small organization, characterised by close working relations between employees and partners, it was felt that the MBCEEP was able to successfully build on and support existing working practices in GAP. Whether such a programme could be successful in larger organizations, with different cultures of work, remains an open question.

Home and work life

A recurring theme within the analysis of the programme was the way in which the MBCEEP course brought into focus various connections between home and working life. The MBCEEP programme tended to span the work and home lives of participants in two main ways. First, the training requirements of the programme tended to mean that different aspects of the course were carried out at work and at home. In this context, one participant raised the intriguing question as to whether the MBCEEP would be most successful in workplaces where the boundary line between work and homes tends to be naturally blurred (as is the case with GAP and other prominent organizations that have embraced mindfulness training such as Google). Second, participants suggested that the programme benefits tended to spill over from work into their everyday lives. One participant noted,

"It's partly realizing what I value and trying to stay present in that, so whether it is being properly [present] with kids when it is that time, or realizing I need to leave work behind so that I can be ahusband properly [...]"

MBCEEP Participant 2

In this context it appears that while the MBCEEP programme naturally crossed the boundary between work and homes lives, that the forms of practice supported by

the course can actually enable the emotional division of these spaces when it is necessary.

Practical application

While it was noted by one participant that the MBCEEP had already had a direct and beneficial impact on an existing project, there was a general feeling of uncertainty among participants concerning precisely how the ideas presented in the programme could be applied in practical, behaviour change contexts. This uncertainly was in part a product of the fact that the insights of the course were relevant within a range of different working contexts. It was, however, also a product of the fact that the course did not link directly to existing projects being carried out by GAP. In future it was recommended that the MBCEEP programme be connected directly to one or more projects that the participant organization is currently undertaking.

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Statistical Appendix

Survey Data

21 people completed the course. But note that for the data analysis n=17 rather than 21 as only 17 people completed the second survey.

Sex	
Female	15
Male	6
Age	
18-24	4
25-34	9
35-44	6
45-54	1
55-64	1
Highest qualification	
Undergraduate degree/equivalent	8
professional qualification	
Postgraduate degree/postgraduate	12
professional qualification	
Other (4 yr undergrad masters)	1
Income	
£20,000-£29,999	2
£30,000-£39,999	3
£40,000-£49,999	5
Over £50,000	10
Prefer not to say	1

17 people completed both survey 1 and 2 and we therefore have 'before' and 'after' measures for them

Question 1

This table compares the scores given for each statement on questionnaire 1 with questionnaire 2 (n=17).

	Mean (SD)	Mean (SD)	2 tailed
	Q1	Q2	p value
(a) I am aware that my mind often works on 'automatic pilot'	7.8 (1.8)	8.8 (0.7)	.011
(b) I am aware of how the surrounding environment can affect my	8.4 (1.0)	8.5 (1.1)	.805
behaviour			
(c) I am aware of how different emotions can affect my behaviour	8.4 (1.5)	9.0 (0.8)	.047
(d) I am aware of how mental shortcuts (such as confirmation bias	6.7 (1.9)	8.3 (1.5)	.005
and future discounting) can affect my behaviour			
(e) I am aware of how my values and beliefs can affect my	7.8 (1.2)	8.9 (1.0)	.006
behaviour			
(f) I am aware of how social norms can affect my behaviour	7.9 (1.1)	9.0 (0.8)	.003
(g) I understand why others find changing their behaviour difficult	8.4 (1.1)	8.7 (1.3)	.477
(h) I empathise with the difficulties others experience when trying	8.2 (1.1)	8.6 (1.0)	.207
to change behaviour	. ,		

Scale was 0-10; 5 = neutral; 7-8 agreement; 9+ strong agreement

There was a statistically significant (at 95% confidence level) higher level of agreement on survey 2 with statements (a), (c), (d), (e) and (f), without a correction for multiple testing. [Using Holm-Bonferroni correction, statement (a) is very close to significance but not quite, and (c) is no longer significant]

(SD = standard deviation. This is a measure of how much the scores vary: smaller SD means that there wasn't much variation between participants in the scores they gave for a statement.)

N.B: In all these tables, Q1 means questionnaire 1 (i.e. pre-course survey); Q2 means questionnaire 2 (i.e post-course survey).

Question 1 continued

This table compares the scores given for each statement on questionnaire 2 with the scores people gave on questionnaire 2 for how they would rate themselves prior to the course. (n=17)

	Mean (SD)	Mean (SD)	2-tailed
	Q2	Q2	p
		hindsight	
I am aware that my mind often works on 'automatic pilot'	8.8 (0.7)	7.5 (0.7)	.000
I am aware of how the surrounding environment can affect my	8.5 (1.1)	7.5 (1.4)	.003
behaviour			
I am aware of how different emotions can affect my behaviour	9.0 (0.8)	7.8 (1.3)	.001
I am aware of how mental shortcuts (such as confirmation bias and	8.3 (1.5)	7.1 (1.7)	.008
future discounting) can affect my behaviour			
I am aware of how my values and beliefs can affect my behaviour	8.9 (1.0)	7.7 (1.2)	.001
I am aware of how social norms can affect my behaviour	9.0 (0.8)	8.1 (1.2)	.009
I understand why others find changing their behaviour difficult	8.7 (1.3)	7.9 (1.1)	.002
I empathise with the difficulties others experience when trying to	8.6 (1.0)	7.9 (1.3)	.000
change behaviour		·	

All differences in means are significant at the .05 level (i.e. with 95% confidence) with a Holm-Bonferroni correction for multiple tests applied (or without) i.e. people thought that they agreed more with all statements at the end of the course.

Question 2 (comparison between survey 1 and 2, n=17)

 $0.6 \le \square < 0.7$ acceptable

 $0.7 \le \Box < 0.9 \text{ good}$

□ ≥ 0.9 excellent

Alpha values for the five scales:

Scale/facet of mindfulness	Suvey 1	Survey 2
Observing	.885 (8 items)	.750
Describing	.906 (8 items)	.922
Nonreacting	.856 (7 items)	.759
Nonjudging	.896 (8 items)	.915
Awareness	.829 (8 items)	.905

Alpha fine for all scales.

	Mean Q1	Mean Q2	p (2 tailed)
Observing	3.2	3.5	.020
Describing	3.3	3.3	.376
Nonreacting	2.9	3.1	.106
Nonjudging	2.9	2.6	.081
Awareness	3.0	3.0	.777

The 5 facet mindfulness scale doesn't show statistically significant increases from before to after the course.

Question 3 (survey 2 only; n=17)

This was an attempt to create 2-statement scales to measure the 5 mindfulness facets, to capture data from those who didn't complete survey 1 as well as the others.

	Spearman-Brown coefficient	
Observing	.295	
Describing	.365	
Nonreacting	.534	
Awareness	.776	
Nonjudging	.923	

So reliability is not good enough except for 'awareness' and 'nonjudging' and therefore these two item scales can't be used as scales

Mean values for individual items:

O1: 7.1; O2: 6.4 A1: 6.4; A2(R): 5.3 R1: 6.8; R2: 6.3 J1(R): 5.6; J2(R): 6.0 D1: 5.4; D2(R): 5.1

Participants on the whole felt there was a *small* shift towards increased mindfulness on some facets, though results less than 6 are not convincing

Question 4 (survey 2 only; N=17)

I learnt things on the course that are useful...

	mean	SD
for my personal life	8.3	1.0
when engaging with colleagues	7.3	1.4
for my work directly or indirectly related to behaviour	6.4	1.1
change		
for my work in general	7.1	1.1

Scale 0-10; 5 = neutral; 7-8 agreement; 9+ strong agreement

Therefore participants agreed the course was useful in all these ways, most useful for personal life and least useful for their work related to behaviour change.

Question 5 (survey 2 only; N=17)

6 said they would probably continue with some form of mindfulness practice 8 said they would definitely continue

Occasionally (less than once a week): 2 people

One or two days a week: 8

3-4 days a week: 3

5 or more days a week: 1