HULT RESEARCH

The Mindful Leader

Developing the capacity for resilience and collaboration
in complex times through mindfulness practice

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Executive summary

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Mindfulness training *and practice* leads to improvements in collaboration, resilience and leading in complexity

Many advocates of mindfulness training suggest that it can help leaders to be effective in the complex, dynamic and fast-paced context of the 21st century. Others deride the approach as a fad, pointing to a lack of evidence for its use in organizational and leadership contexts.

Certainly there has been, until now, scant robust research examining what the actual impact of mindfulness training with organizational leaders is, and we have been left with little idea about whether, why and how mindfulness practice might impact leadership effectiveness.

This report details the initial findings of a multi-methods wait-list controlled study conducted with senior leaders who undertook an eight-week 'Mindful Leader' program using mindfulness training and practice, along with other elements of leadership development, to foster the capacities of collaboration, resilience and leading in complexity.

Our evidence suggests that the program was effective in developing these capacities and, crucially, our data shows that this effect was reliant on the extent of home practice undertaken. For example, those who practiced more experienced improved agility, perspective taking, emotional control and key measures of empathy. More specifically, those who practiced formal mindfulness meditations for ten minutes or more per day over the eight-week period that the program ran were significantly more likely to experience an increase in their resilience and their overall mindfulness.

We also, however, established that finding even ten minutes to practice every day can be experienced as challenging by busy senior executives.

Based on our course-participant reports, we have formulated the beginnings of a theory of mindful leadership. We suggest that there are three fundamental, higher-order 'meta-capacities'. They are: improved metacognitive capability (the ability to observe one's thoughts, feelings and sensations in the moment) and the attitudes of allowing and curiosity. Between them, they create a 'space' which allows more mindful leaders to respond – as opposed to react – to events. This space, in turn, enables a range of cognitive and emotional skills such as focus, emotional regulation, empathy, adaptability and perspective taking, which are vital for successful leadership today. Applying these skills then results in improvements in capacities for resilience, collaboration and leading in complexity.

Our findings suggest that mindfulness practice should be considered an important and effective intervention in developing leadership capacity for the 21st century. But one should be under no illusion that it offers a 'quick win': sustained mindfulness practice of around ten minutes per day over eight weeks seems to be fundamental in achieving the desired results. This has significant implications for those who are designing, delivering and participating in mindfulness training programs.

The context
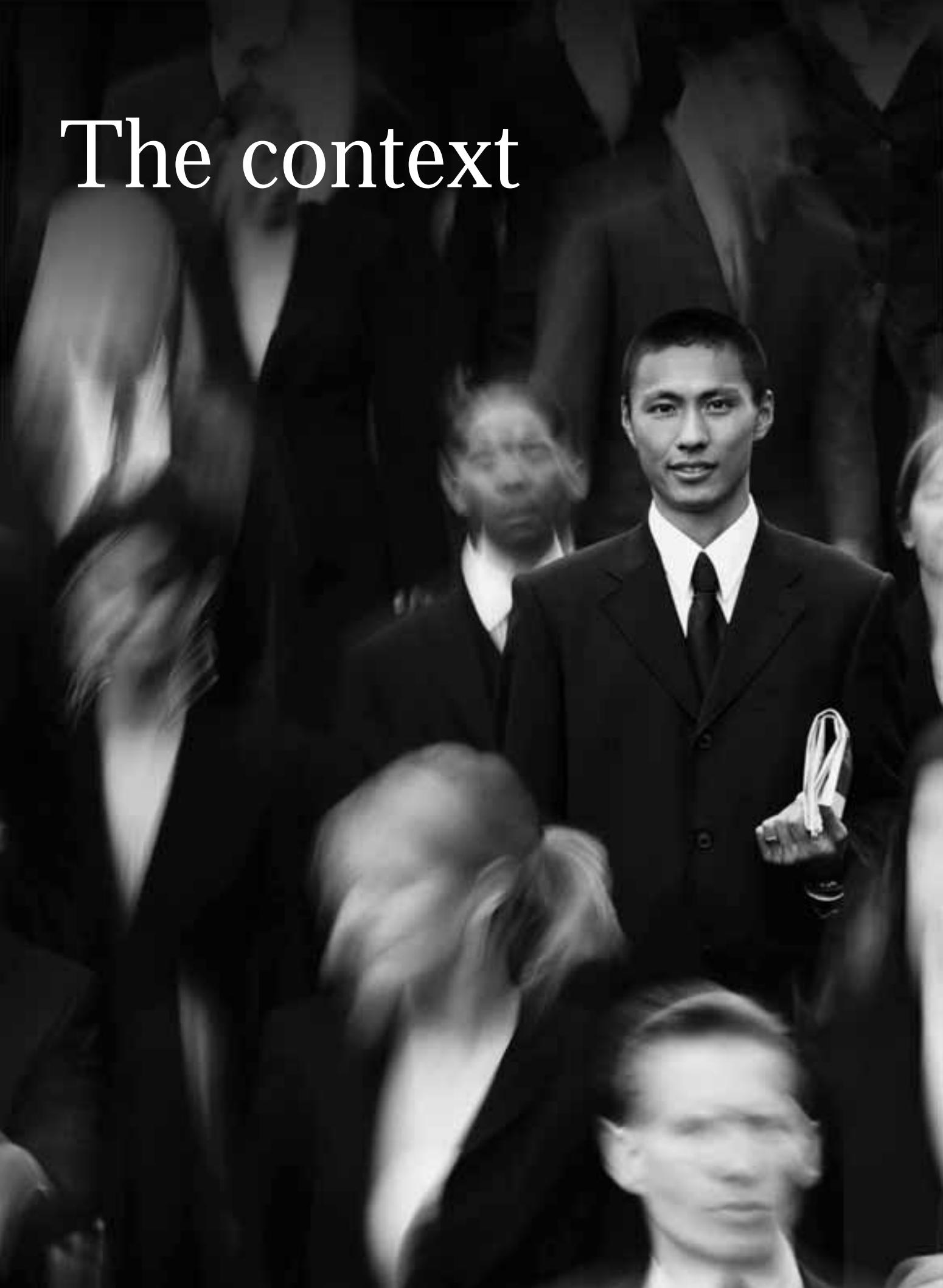
The context

New context calls for new leadership practices

The context in which leaders need to operate has changed significantly since the turn of the century.

Global challenges today include political and economic instability, climate change, rapidly increasing globalization, the proliferation of social media and the threat of terrorism in cyberspace as well as in our places of work and home. Conditions are described as increasingly paradoxical[1], with leaders embedded in diverse relational networks[2] and systems which are complex rather than 'simply' complicated[3].

Leaders today are called on to develop the capacities for relating and working well with others and coping – indeed thriving – in situations where they lack the capacity to engineer or control outcomes.

In this report we examine the impact of a Mindful Leader training program on three key intertwined capacities commonly cited[4] as being critical for leaders in the 21st century:

1. **The capacity to collaborate with others**.
   Leadership today calls for facilitating co-operation, idea generation and decision-making across boundaries and across viewpoints, both inside and outside the organization. In our trial we set out to discover whether mindfulness training and practice would impact issues such as care and concern for self and others as well as the ability to respect and facilitate diverse perspectives; important elements of effective collaboration.

2. **The capacity for resilience.**
   Rather than the popular notion of resilience, which considers it as the capacity to rebound following failure and develop from the experience[5], we focused here on elements identified by the Ashridge Resilience Questionnaire[6]: emotional control, self-belief, purpose, adapting to change, awareness of others and balancing alternatives. Leaders who score high on a combination of these measures have been shown to maintain their personal and leadership resilience in the face of adversity.

3. **The capacity to survive and thrive in complex contexts.**
   Under this heading we examined the leaders' capacities to know their own perspective as just that – a perspective – and their capacity to step outside of that to see others' perspectives (a skill also required for collaboration). We were also interested in their ability to be agile: to make swift decisions in the midst of distraction, to maintain a flexible management style and to be flexible in how they processed information.

Could mindfulness training, we asked, impact these three capacities?

What is mindfulness?

Research into mindfulness in organizational contexts broadly constellates around two distinct strands. One in which Buddhist-derived practices are either implicitly or explicitly acknowledged; and a Western paradigm, rooted in cognitive psychology, without reference to Buddhist meditative practice[7]. The latter derives largely from Langer[8], who describes mindfulness as the opposite of mindlessness and uses the term to denote a state of alertness and awareness.

Our own focus has been on Buddhist-derived mindfulness - the most researched of which approaches[9] is the eight-week Mindfulness-Based Stress Reduction (MBSR) program created by Kabat-Zinn[10]. On that program participants learn how to mindfully attend to thoughts, feelings, sensations and impulses through the use of different meditations and other mindfulness exercises, along with discussions and practices geared toward applying mindful awareness to daily life.

Kabat-Zinn describes the form of mindfulness that emerges from engaging in the program as "the awareness that arises from paying attention on purpose, in the present moment and nonjudgmentally"[11]. We used that definition on our program. We also sometimes spoke of mindfulness as a choiceful and open-hearted awareness of yourself, others and the world around you.

Key research questions

Given the pressing need to develop leadership capacities helpful to our changing context and given the promising evidence regarding the impact of mindfulness training particularly in clinical populations, our intention was to answer three questions:

Does eight weeks of mindfulness training and practice impact leaders' capacities for resilience, collaboration and leading in complexity?

If it does, how does it?

What are leaders' experiences of practicing mindfulness?

What we did

What we did

Studying the impact of mindfulness and the experience of practice

Our participants were a cross-sector group of 57 senior leaders. They attended three half-day workshops every two weeks and one final full day workshop. There was different content for each of the sessions, but they broadly followed the same framework: tuition; practice and feedback around various mindfulness meditations and other exercises; specific discussions around the application of mindfulness to leadership contexts; feedback on home practice and the assignment of new home practice.

The program we devised and taught used elements imported from both MBSR and Mindfulness-Based Cognitive Therapy (MBCT)[12] while adding-in teachings specific to the context of organizational leadership. All of this was informed by research on the transfer of learning in leadership development[13].

The program was led by two facilitators – a mindfulness teacher with over 40 years of personal experience of mindfulness approaches, including significant experience of teaching in organizational and leadership contexts; and a business school professor with extensive experience of facilitating leadership development programs as well as a personal daily mindfulness practice.

Approximately half the group were designated as the experiment group. The other half were a control group. Both groups were tested using the same measures. The experiment group were tested before and after the training intervention. The control group were tested over the same time period but without the training, which they attended only after measurements had been completed.

In terms of quantitative measures, we used:

1. A customized Mindful Leader 360, focused on the three capacities under investigation (collaboration, resilience and leading in complexity), which enabled individuals to compare their own perceptions of their effectiveness in different areas of their work with the perceptions of their colleagues (boss, peers and direct reports). Through a process of factor analysis, we reduced the scores on the 360 to five underlying variables: 'collaboration', 'resilience', 'care and concern for self and others', 'perspective taking' and 'agility in complexity'.

2. The Interpersonal Reactivity Index[14] (IRI), a psychometric designed to assess empathic tendencies.

3. The Beck Anxiety Inventory[15], a well-accepted self-report measure of anxiety in adults for use in both clinical and research settings.

4. The Ashridge Resilience Questionnaire[16], assessing personal resilience through understanding participants' perceived ability to respond to a stressful situation.

5. The Automated Operation Span Task (OSPAN)[17], a measure of working memory capacity.

6. The Five Facet Mindfulness Questionnaire[18], a measure of overall mindfulness.

Participants logged the number of minutes of practice they conducted every day throughout the eight-week period as well as their comments on the type of meditation and their experience of it.

In addition to these quantitative measures, we collected over 27 hours of recorded data cataloguing the subjective experience of the participants throughout the program.

This included recordings of un-facilitated small group discussions regarding the experience of practice, one-to-one interviews and group discussions at the end of the program.

A survey was conducted 12 weeks after the program to gather both quantitative and qualitative data relating to the perceived impact of the program and the sustainability of that impact.

What we found

What we found

Training alone has some effect on resilience and mindfulness

Undergoing an eight-week mindfulness training program (not accounting for levels of home practice) significantly enhanced self-report assessments of the leadership capacity of **resilience** (as measured by both the 360 and the Ashridge Resilience Questionnaire). It also improved the '**describing**' element on the FFMQ (which measures participants' ability to describe their internal experiences) and the total score on the FFMQ. The training program did not, however, impact self-report measures of care and concern for others, perspective taking, or others' perspectives of any of the factors assessed through the 360 questionnaire.

Similarly, mindfulness training alone (again, without accounting for the amount of mindfulness practice) did not impact any of the empathic tendencies as measured by the Interpersonal Reactivity Index (IRI).

However, when we accounted for the level of formal meditation practice, our data told us a different story.

Practice matters: it takes ten minutes to change your mind

It won't surprise anyone familiar with mindfulness practice that we found that the real benefits of the Mindful Leader program depended on the amount of formal mindfulness practice that participants undertook over the eight-week period.

As measured by 360 and certain elements of our psychometric measures, simply attending the Mindful Leader program, without accounting for the level of home practice, enhanced some measures of resilience and overall mindfulness. But the more mindfulness practice an individual undertook, the greater the improvement in their scores on many of the measures including:

- The leadership capacities of **resilience** as measured by both the self-report 360 and the Ashridge Resilience Questionnaire
- **Collaboration** as measured by the self-report 360
- **Agility in complexity** as measured by the self-report 360
- All characteristics of **mindfulness** as measured by the FFMQ
- Empathic tendencies of **fantasy** (the ability to transpose oneself imaginatively into the feelings of others) and **perspective taking** (the ability to adopt the psychological viewpoint of others) as measured by the Interpersonal Reactivity Index. Practice also predicted a **reduction in personal distress** as measured by the same index.

"I had that kind of conscious decision of, rather than letting it all crash around me, 'well everything can wait, get it back into perspective'."

"I am less stressed by not having immediate solutions…better able to reflect and wait for the solution to arise."

"I talk at a thousand miles an hour, I have an agenda that is thirty points long, and I have been exhausting to be around when we've got a lot to do. I've really made a conscious effort to slow down, and take the time to, not so much just focus on the task, but recognise there's a person in front of me, and they're having their own experience."

Whilst mindfulness practice predicted changes to four of the five resilience scales measured on the ARQ it did not predict changes in empathic concern. No significant impact on others' perceptions in the 360 were recorded. Finally, neither mindfulness training nor practice impacted working memory, as measured by the OSPAN or anxiety, as measured by Beck Anxiety Inventory. This report focuses on the significant impacts of training and practice, however it is also important to consider and analyze the occasions where there was no quantitative impact. This has been undertaken in a previous publication[19] and will be a subject of planned forthcoming publications.

Crucially, those who practiced for ten minutes or more per day showed significant increases in measures related to their resilience and their overall mindfulness in comparison to those who practiced less than ten minutes.

The qualitative data lend support to the findings from the quantitative analysis. The most widely reported impact found in the qualitative data was also on personal **resilience**. Participants frequently reported an increased capacity for self-awareness and self-management, especially around emotional regulation, perspective taking and the ability to 'reframe' potentially difficult or stressful situations both at home and at work. They also reported enhanced sleep, reduced stress levels and improved work-life balance, as well as increased confidence in the face of difficult situations.

"In terms of resilience, it's helped me personally - it does help my stress - you become aware of what your body's doing at any one moment, and that's very much a product of what's going on in your thoughts and your emotional reactions to those."

The most common themes reported in relation to **collaboration** referred to increased empathy through a heightened understanding of, and appreciation for, others' state and position. Some participants summarized this by suggesting their interactions felt more 'human'. Increased capacity for collaboration was also linked to increased confidence and resilience illustrating how the key capacities we investigated were intertwined.

"Being more fully present: bringing all of myself to any interaction. People at work have noticed that we have had richer conversations that have felt more human. I feel there's been more connection, that's what it is: more connection with people."

As regards the capacity to **lead in conditions of complexity**, the most common themes reported related to an increased capacity to focus; to remain calm under pressure; and an enhanced adaptability and agility through a decreased attachment to positions or views – all of which enabled better decision making.

"Previously I would have shied away from complexity. Now I approach problems - after taking a deep breath or 3! - with openness and curiosity. I approach problems/issues, rather than running away from them or ignoring them."
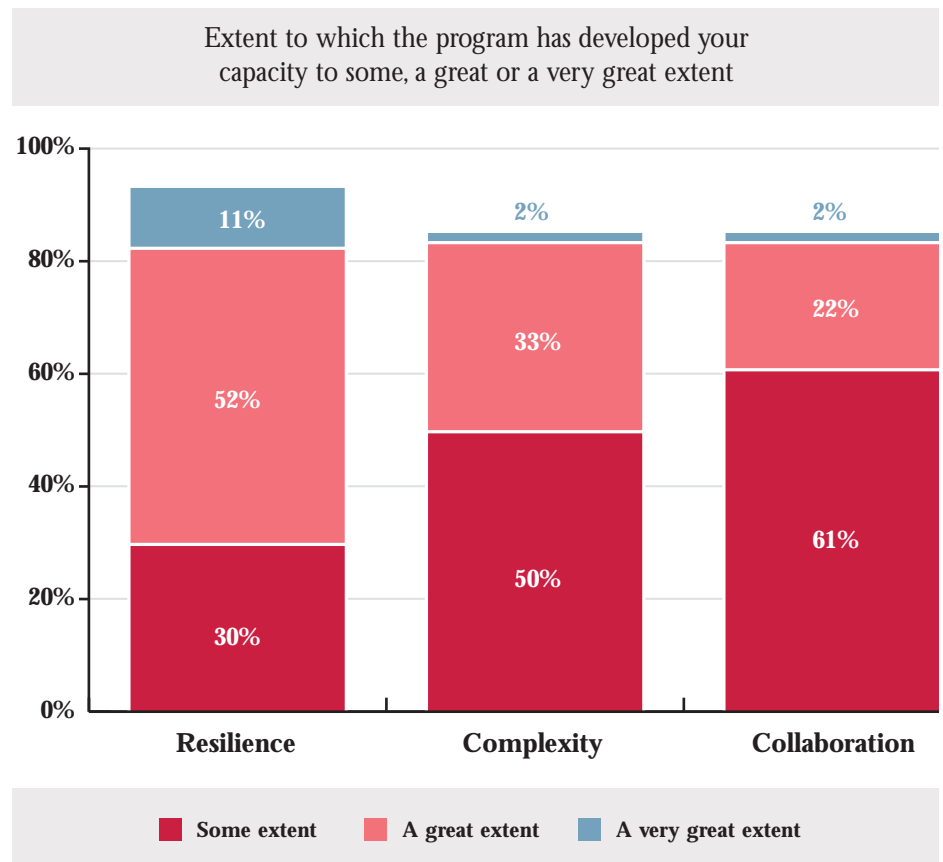
The impact lasts

The post-program survey administered approximately 12 weeks after the end of the program, aimed to discover the extent to which participants felt the program had impacted the three key leadership capacities of resilience, collaboration and leading in complexity. Figure 1 illustrates results from both groups taken together and it shows that 93%, 85% and 85% of participants recognized they had experienced impact in relation to their resilience, capacity to lead in complexity and capacity for collaboration respectively.

When asked to explain the area that they felt they had experienced most impact in as a result of the program, 40% of respondents detailed answers relating to 'less stress', 'calmness', and 'emotional regulation'. Popular responses also included the ability to respond rather than react (14%) and increased focus (11%). Three quarters of respondents felt that the likelihood of their top rated impact being sustained was 'great' or 'very great'. 100% felt that the impact would be sustained to at least some extent.

Figure 1: Post-program impact

Extent to which the program has developed your capacity to some, a great or a very great extent

Legend: Some extent, A great extent, A very great extent

Resilience: Some extent 30%, A great extent 52%, A very great extent 11%
Complexity: Some extent 50%, A great extent 33%, A very great extent 2%
Collaboration: Some extent 61%, A great extent 22%, A very great extent 2%

Three key 'meta-capacities' underlie the impact of mindfulness practice

"I think it gave me a way to take back control over my own thinking. So recognizing that I'm choosing my thoughts, and they're not me, they're just the noise of what's going on."

"I think that bit of stepping back and just saying 'What actually is the problem here? What is it that's getting at me?' I find really helpful."

Our first key finding when analyzing the qualitative data, was that participants referred to three over-arching and fundamental abilities which seemed to underlie all other impacts: metacognition, allowing and curiosity. We therefore refer to these as 'meta-capacities'.

Participants talked about how these meta-capacities enabled them to experience a small 'space' in the flow of their experience, an opening that enabled choice and allowed them to respond rather than just react according to old habits and emotional patterns.

The first of these meta-capacities, **metacognition**, is the ability participants discovered to choose at crucial times to observe, in the moment, what they were thinking, feeling and sensing. This is like stepping out of the fast flowing stream of your experiencing onto the bank, where you can observe what is actually happening rather than being swept along with it. Participants spoke of this meta-capacity as a crucial means of escaping from familiar, habitual, 'automatic pilot' modes of mind.

"[The program has] allowed me to just be able to see these things - thoughts, feelings, sensations - separately from me, view them, explore them …"

The second meta-capacity that was often referred to was curiosity. Throughout the course, we encouraged participants to develop an attitude of **curiosity** – towards their own experience, towards others and to the world around them.

"[I ask myself] 'why am I feeling like this? What's this feeling? What am I sensing?' and [I'm] interested in it rather than trying to just make it go away."

A growing attitude of curiosity helped both metacognition and the attitude of **allowing** - the third meta-capacity. We use the term 'allowing' to describe the non-judgmental aspect of mindfulness. This has two components: a wisdom dimension, where you let what is the case, be the case; and a compassion dimension, where you approach yourself, others and the world about you with a sense of wanting to bring about what is best for all concerned – in this moment.

Participants frequently referred to this allowing attitude when they reported being called on to deal with potentially stressful situations and when they discussed the increased compassion they had towards themselves.

"So [I think] 'Ooh, this is all a bit uncertain, and I'm quite unsure'; that's actually an okay place to be, and from there you can explore."

"That ability to let a few things go more easily, and not worry about them overly. Take it as what it is. And also, maybe the deeper recognition, that there are things you just can't change, and then the best option is to go towards them and be with them."

These meta-capacities helped to develop five cognitive and emotional skills

"I can put myself into quite a detached and objective place, almost at will…I acknowledge others' emotions but don't feel hijacked by them."

"It's easier to evaluate different options more rationally and calmly and base fewer decisions on prejudice and prior experiences."

"I've decluttered my head. I say 'this is the only thing I'm going to think about'. Maybe this is leading towards an ideal of problem solving."

"My partner notes I am calmer and more able to cope with unexpected events."

According to our participants' accounts, as they developed the meta-capacities described above, they began to experience and further develop a range of cognitive and emotional skills.

Five key skills, developed through mindfulness training and practice, stood out from the analysis: emotional regulation, perspective taking, empathy, focus and adaptability.

Emotional regulation was described by participants as the ability to make a more conscious choice about how to respond to a situation rather than allowing emotions to dictate an automatic reaction. Increasingly they found they could notice their tendencies to react, they could then allow their experience to be what it was, and that then created a space for choice from which a more considered and appropriate emotional response often emerged.

"I can come into a situation more informed about what's going on for me, and if I'm talking to people who are perhaps not angry, but upset, I can be calmer with them, and allow them to vent, and [I can then] respond in a much more considered way."

When it came to **perspective taking**, participants explained, for example, how the 'space' created through the meta-capacities enabled them to see a situation from various angles or views, which in turn enhanced the quality of their decision making.

"There have been a couple of light bulb moments, of me stopping, taking a breath and gaining perspective, rather than diving straight in."

As regards **empathy**, participants referred to an improvement in their ability to consider other peoples' experience and a desire to focus more on others.

"I've become far more externally focused and tuned into other people and what they need."

Mindfulness practice was also commonly reported as enabling an increased ability to **focus** and a correspondingly greater clarity of thought. This was reported to have helped with making better quality decisions - being fully 'present' with one activity rather than distracted and spread across many activities simultaneously.

"I've really noticed, throughout the last eight weeks, I think twice about trying to do everything at once. I am realizing the benefits of just focusing on one thing at a time."

When it came to **adaptability**, we found that participants sometimes spoke of adapting to different or difficult circumstances and changing their automatic response to a situation through focusing.

"Then I thought 'what can I do for the rest of the afternoon instead of getting angry?'"

'Home practice' was challenging but keeping to a routine helped

"I do a 20-minute sitting meditation in the morning rather than leaving it as the last thing I do. I feel it really sets me up for the day."

"I don't look forward to doing it … and it's only ten minutes … it's like a job that I've got to do and I don't want to do it."

"Understanding what fits easily into my lifestyle without engendering guilt if it doesn't happen, has helped me to reintroduce regular practice."

We analyzed when participants said they practiced during the day, their feelings towards their practice, as well as their preferences around the type of practice they undertook: both formal and informal. Finally, we noted the challenges participants faced in undertaking their home practice – as well as what they felt helped them.

Most commonly, people practiced first thing in the day, although some preferred meditation practice just before bed, perhaps because it was quieter, or because it seemed to help sleep.

The standard routine of the working week seemed to be more supportive to practice rather than relatively unstructured weekends.

In terms of formal practice, practicing whilst travelling on the train was notably popular, particularly if it fitted into an established routine. Some practiced at work, however there were varying comfort levels with practicing in a place where they could be observed by others and frustration at the degree of distraction experienced in the workplace.

Informal practices (as opposed to structured meditations, guided by audio instruction) included mindful eating, walking, showering in the morning and simply stopping and noticing aspects of experience during the day.

In their recorded small group fortnightly discussions after the program, we were able to listen-in to the tumultuous experiences our participants had in relation to their practice and developing a new skill and habit. This ranged from thorough dislike and frustration to utter pleasure and excitement.

Participants sometimes referred to times where they felt that doing their meditations had become a chore and there were a number of notable challenges to undertaking a regular practice.

By far the most common challenges were being 'too busy' to carve out the time necessary for meditation and 'beating oneself up'. These were seen by participants as particularly ironic given their aspiration of using mindfulness practice as a route to calmness and reduced stress.

"It's just I don't feel I have the time. And every time I have that thought I'm like 'that was the whole point of going on this course!'"

Participants also reported the difficulty of simply staying awake while meditating. Lack of support from others at work and at home was also a deterrent.

"For me it's seeing the real benefit to me as an individual both at work but more so personally, that will sustain my practice and the change in behavior that this practice brings."

It was interesting to note that several participants were continuing to struggle with prioritizing and developing their practice and skill towards the end of the program. What often helped the regularity and quality of their practice included nurturing an attitude of allowing, adopting a routine, and receiving support from others. Participants also noted that it helped when they experienced their practice as bringing something worthwhile to them; in other words, they saw the benefits.

"I think my husband sees the benefits of my behavior when I meditate, so he tries to help create that space for me."

"I think I feel so busy - I'm so busy at work and at home - that I've just accepted the fact that I feel so much better by spending some time meditating, and I now feel the benefit from it, that it's in my list of things that I do."

Mindfulness skills were applied in 'life' as well as at work

"Yesterday morning I had a car accident and I recognized that I needed to pull over to do three-step breathing to just calm myself down and go through everything. I thought 'wow, it's so powerful knowing when you need it'."

Participants spoke of the occasions when they had consciously drawn upon their mindfulness skills. Common situations included preparing for important meetings, while presenting, and in their relationships with their bosses, and with the teams they managed. With the latter, applying mindfulness skills to difficult conversations was frequently mentioned.

"I was doing someone's annual review and, as has been the pattern with this person, there was a load of crap ((laughing)) coming my way. And I thought, 'actually, let's try and just do this three-stage breathing while I'm doing the review'. And it worked really well."

Outside of work contexts, participants referred to using their skills in their interactions with their children, while participating in sporting activities and while trying to get to sleep.

They also referred to applying their skills to unusual, emotionally challenging events.

A theory
of mindful
leadership

A theory of mindful leadership

The mechanisms underlying mindful leadership

Through exploring our data in depth, we found what appears to be a hierarchy in effects. Three 'meta-capacities' – metacognition, allowing and curiosity – enable the development of a sub-set of five key cognitive and emotional skills and these in turn impact the key leadership capacities under investigation.

This leads us towards a theory of mindful leadership which is offered to encourage further research in this area.

When some combination of metacognition, curiosity and allowing are present, a small 'space' opens in the flow of experience where choiceful response becomes possible and reactivity is reduced[20].

This enhanced choicefulness in turn seems to enable a set of key cognitive and emotional skills. There is increased emotional regulation (sometimes aided by employing specific informal meditations in the moment); an increased capacity to see things from alternative perspectives; increased empathy; an enhanced ability to adapt; and a greater capacity to focus, with clarity and calmness, on the array of issues at hand.
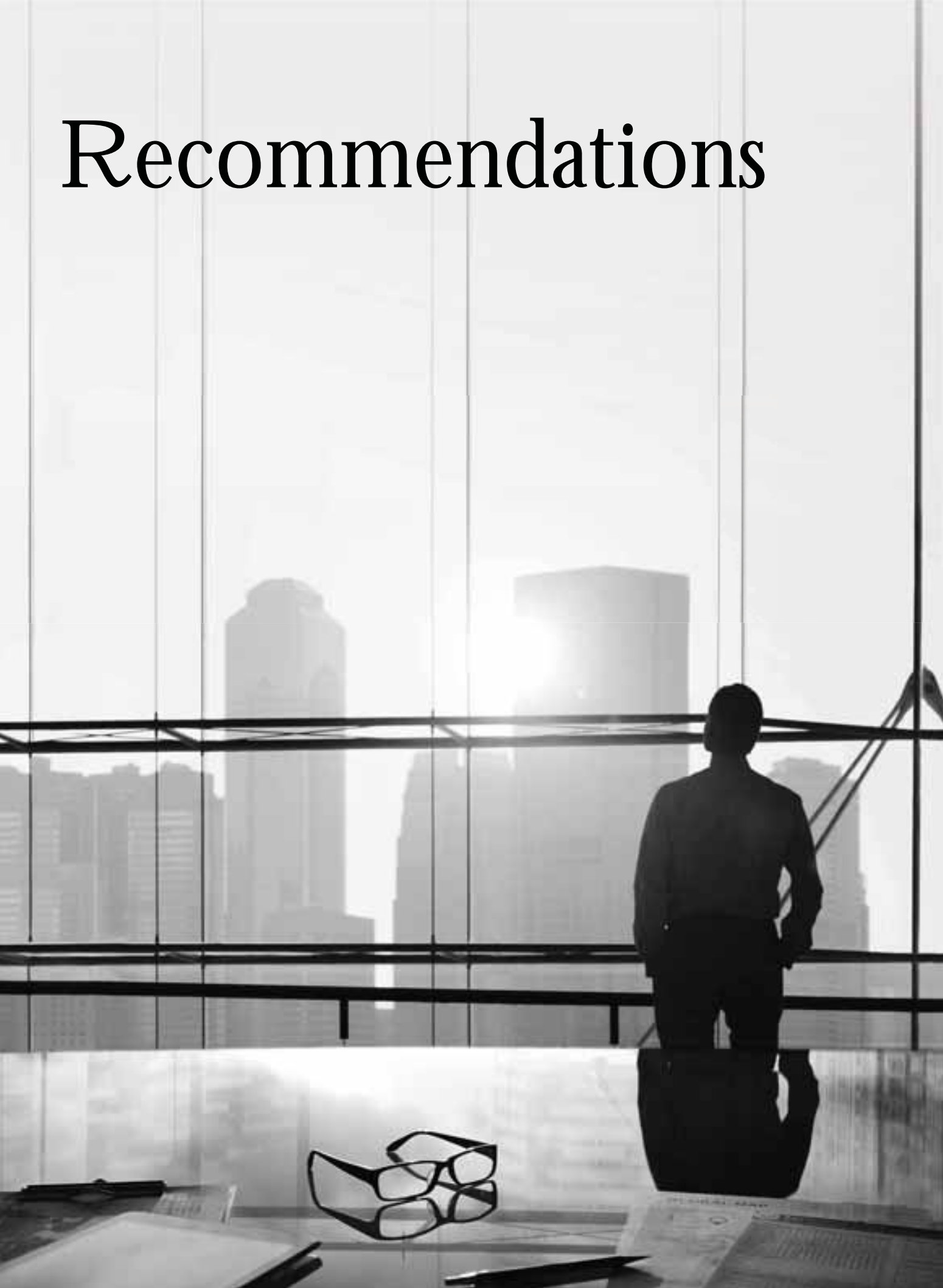
These enhanced cognitive and emotional skills in turn result in improved resilience, collaboration and the capacity to lead in complexity (as well, perhaps, as others not investigated in this project, such as strategic capability).

This theory is described diagrammatically below.

Figure 2: A theory of mindful leadership
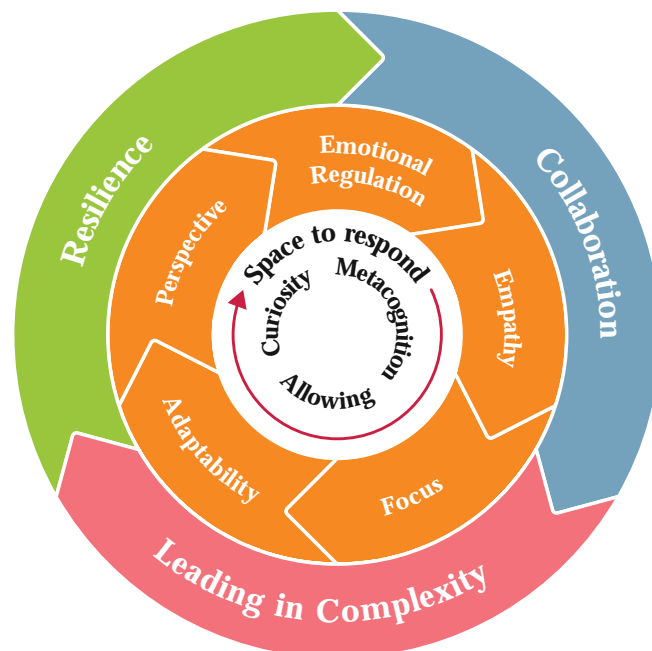
Recommendations

Recommendations

Recommendations for individual leaders

For those individuals wishing to learn and develop their mindfulness skills, based on our findings and our experience as mindfulness practitioners and teachers, we offer the following advice:

• Although you are likely to see some benefits straight away, you need to practice mindfulness over an extended period (and keep practicing) to achieve the most significant impact on your leadership capacities

• Although there are various ways of developing mindfulness, the approach is subtle and can be hard to grasp at first. In our opinion, attending a structured, taught program is the most helpful way of learning. Make sure the instructor running the program is well-trained and supervised. The Good Practice Guidelines suggested by the UK Network for Mindfulness-Based Teacher Trainers are a good starting point for enquiring into this. See: http://www.mindfulnessteachersuk. org.uk. If attending a program is problematic, you can use a book to help you self-instruct.

• Work out when and where you can practice for at least ten minutes every day. What works for you?

• Find audio downloads of meditations, at least initially, that you enjoy.

• If you are comfortable doing so, tell those closest to you that you are starting to practice and that their support and encouragement would be really appreciated.

• Might a friend or a work colleague also be interested in learning mindfulness? If you can 'buddy up' with someone else to discuss experiences and offer support and encouragement to one another it tends to help.

• In addition to the ten minutes of formal practice, allow yourself moments in the day where you pause and simply notice your thoughts, feelings and sensations in the present moment. Allow and accept what you notice. If it helps, plan these moments in your diary or build up a habit whereby you routinely associate a particular activity with becoming mindful. For example, some of our participants spoke of how they began to consciously 'check in' with themselves just before and as they put the key in the door of their home as they arrived back from work.

• Practicing 'informal' mindful walking, running, swimming and even showering are all useful (and often enjoyable) activities. Do them in addition to the formal meditations rather than instead of if possible. It may be that in the 'laboratory' conditions of formal meditation we are more thoroughly able to develop the neural pathways around metacognition, curiosity and allowing.

Recommendations for organizations

For those wishing to design and implement an intervention based on mindfulness practice in an organization, we recommend the following, based on our findings:

- If you want to affect the system, remember to always start with yourself: begin to develop your own personal practice, daily. In this way you will also develop an understanding and empathy for those participants who are seeking to develop their own skills in the area.

- Invite a mindfulness trainer who has significant experience in the corporate environment and who has an extensive personal mindfulness practice to speak with employees who are interested. A formal 'taster session' is often a good starting point.

- If you are keen on attaining the kind of impact reported in this research project, offer an extended mindfulness intervention (for example, an 'eight week mindfulness program') rather than a one-off workshop. The latter may have some impact (for example by giving tips and techniques to deal with stress) and is valuable in gauging interest and commitment to a program, however it is the practice over a sustained period that can result in more embedded and longer lasting change.

- Allocate a space for people to practice which is quiet and private, preferably not a 'goldfish bowl' in the middle of the office…

- Encourage people, if they wish, to practice together. Perhaps facilitate group-based audio-instruction guided meditation at a particular time of the day.

- Start your meetings with a 'mindful minute' (60 seconds where people bring their attention to their breath by counting them, in silence) or a similar process that helps attendees to choose the quality of their attention and focus on the others present and the issue at hand.

- If you are in an influential position in the company, and practice mindfulness, role model behaviors: show attention to others; practice regularly; and talk about it with others. Encourage other leaders to do the same.

Conclusion

Conclusion

Mindfulness: essential to 21st century leadership, but not a silver bullet

The aim of this research project was to add to our limited understanding of how mindfulness practice might influence the development of leadership capacities. Through capturing wait-list control and 360 data relating to 'real' senior executives who were working within their day-to-day contexts we have responded to numerous calls for more robust empirical research[21]. The depth and richness of qualitative data gathered alongside the quantitative data allow us to illuminate the experience of our participants and the way they made sense of the effects they perceived. It also aides the theoretical development of why and how mindfulness may impact leadership practice.

Taken together, our quantitative and qualitative data support the case that mindfulness training and practice can develop capacities important to leaders, although considerable further research would be beneficial. Our data indicate that our participants perceived mindfulness training to have a positive impact on resilience and on collaboration and leading in complexity. Importantly, our data give insight into the underlying processes and skills which may support these improvements and others cited by our participants. It emphasizes, empirically, the crucial role that practice plays in obtaining these outcomes and offers a suggestion as to the extent of practice needed to achieve desired outcomes.

In this way we contribute to the debates in mindfulness, leadership and leadership development both because we add empirical evidence from the hitherto under-reported context of leadership and because we illuminate empirically how and why mindfulness practice might influence the enactment of leadership[22].

With the popularity of mindfulness in the workplace growing exponentially, researchers are playing catch-up and there have been the inevitable criticisms directed towards the mindfulness 'bandwagon'[23]. This research contributes to our understanding and evaluation of how mindfulness practice might be relevant to leaders in the 21st century. There are still many areas which are inconclusive and require further research, nonetheless the findings in this report support the hypothesis that mindfulness training and practice may be helpful in equipping leaders with relevant and useful capacities for the next global challenge ahead. This is well summed up by one of our participants:

"Mindfulness is not a 'silver bullet' solution as many books and courses would have one believe. Seen in context, as a gradual increase in awareness of these aspects in ones' life, it is however essential and a great help in interacting with collaborators, managing a team, decision making and putting things in perspective."

Appendices

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The figures in more detail

Statistical analysis

This section provides more detail, for those interested, about the statistical processes employed and the results achieved in our quantitative analysis.

Repeated measures ANOVAs were employed to explore the impact of mindfulness training on the measures detailed below, by comparing the difference in any change in measure between time 1 (pre program) and time 2 (post program) between the experimental group and the control group:

- 360 factors: 'collaboration', 'resilience', 'care and concern for self and others', 'perspective taking', 'agility in complexity'

- Interpersonal Reactivity Index (IRI)

- Beck Anxiety Inventory (BAI)

- Ashridge Resilience Questionnaire (ARQ)

- Automated Operation Span Task (OSPAN)

- Five Facet Mindfulness Questionnaire (FFMQ)

Linear regression analyses were also conducted to explore the impact of the amount of mindfulness practice undertaken (as measured by number of minutes of practice throughout the eight-week period) on the difference between the scores at time 1 and time 2.

Finally, correlation analyses were conducted to explore any relationship between mindfulness practice score and the difference between time 1 and time 2 scores.

Given the number of measures collected, only significant results that demonstrate an impact of mindfulness training or mindfulness practice are reported below.

Impact of mindfulness training

We found that **mindfulness training** had a significant impact on self-report measures of resilience as assessed by the 360 questionnaire ($f_{(1, 50)} = 9.48$, $p < 0.01$, $\eta_p^2 = 0.16$); as well as the describing scale of the FFMQ ($f_{(1, 51)} = 9.62$, $p < 0.01$, $\eta_p^2 = 0.16$), and the total FFMQ score ($f_{(1, 51)} = 9.52$, $p < 0.01$, $\eta_p^2 = 0.16$).

We also found a significant impact of training on the emotional control ($f_{(1, 39)} = 8.25$, $p < 0.01$, $\eta_p^2 = 0.18$) and balancing alternatives scale of the Ashridge Resilience Questionnaire ($f_{(1, 39)} = 10.91$, $p < 0.01$, $\eta_p^2 = 0.22$).

Impact of mindfulness practice

We found practice time significantly predicted differences between time 1 and time 2 for a variety of the measures, with greater practice time correlating to greater difference:

- 360 self-report measures of collaboration ($r^2=0.09$, $p<0.05$); resilience ($r^2=0.25$, $p<0.01$); agility in complexity ($r^2=0.08$, $p<0.05$); and total combined (self and other) scores for resilience ($r^2=0.13$, $p<0.01$).

- All FFMQ scales: describing ($r^2=0.08$, $p<0.05$); non judging ($r^2=0.14$, $p<0.01$); non reacting ($r^2=0.15$, $p<0.01$); observing ($r^2=0.11$, $p<0.05$); and acting with awareness ($r^2=0.10$, $p<0.05$).

- IRI scales of fantasy ($r^2=0.11$, $p<0.05$); perspective taking ($r^2=0.02$, $p<0.05$); and personal distress scale ($r^2=-0.27$, $p<0.05$ – negative correlation)

- ARQ scales of emotional control ($r^2=0.16$, $p<0.01$); adapting to change ($r^2=0.11$, $p<0.05$); balancing alternatives ($r^2=0.34$, $p<0.01$); and awareness of others ($r^2=0.20$, $p<0.05$).

How much practice makes a difference?

A median level of 554 minutes practice was recorded which equates, over the 8 week period, to 10 minutes per day. Participants and their data were therefore divided into three groups: no practice, low practice (under 10 minutes per day) and high practice (over 10 minutes per day).

The 'high practice group' had a significantly greater difference between pre and post results compared with the 'no practice group' and the 'low practice group' in relation to FFMQ and ARQ scales as follows:

- ARQ, balancing alternatives ($f_{(2, 18.9)}$ = 11.22, p <0.001)
- ARQ Total ($f_{(2, 38)}$ = 7.53, p <0.01)
- FFMQ, observing – ($f_{(2, 51)}$ = 5.62, p < .01)
- FFMQ Total – ($f_{(2, 51)}$ = 8.83, p < 0.001)
- AIMS 360 resilience, self-score ($f_{(2, 49)}$ = 10.02, p < 0.001)

Results therefore indicated that whether a participant practiced for more than 10 minutes per day on average significantly predicted the increased results they obtained for mindfulness and resilience.

About the authors

Megan Reitz

Megan is Associate Professor of Leadership and Dialogue at Ashridge where she speaks, researches, consults and supervises on the intersection of leadership, change, dialogue and mindfulness. She has presented her research to audiences throughout the world and is the author of Dialogue in Organizations (Palgrave Macmillan, 2015).

Her passion and curiosity centers around the quality of how we meet, see, hear, speak, learn with and encounter one another in organizational systems and how we might encourage dialogue which is more humane and opens the possibilities for human flourishing.

Before joining Ashridge, Megan was a consultant with Deloitte; surfed the dot-com boom with boo.com; and worked in strategy consulting for The Kalchas Group, now the strategic arm of Computer Science Corporation. She was educated at Cambridge University and has a PhD from Cranfield School of Management. She is mother to two wonderful daughters who test her regularly on her powers of mindfulness and dialogue.

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Michael Chaskalson

Michael is one of the pioneers of the application of mindfulness in leadership and in the workplace. He is the author of the agenda-setting book The Mindful Workplace (Wiley, 2011) and the bestselling Mindfulness in Eight Weeks (Harper Thorsons, 2014).

Based on his 40 years of personal practice of mindfulness and related disciplines, Michael now shares his insights and research with audiences worldwide as a keynote speaker, coach, consultant, and teacher. He works with global corporations and public sector organizations, as well as individuals, so that they better understand mindful leadership practices.

Michael has also been a successful social entrepreneur, founding a fair trade company that came to have annual sales of £10 million and 200 employees. He is founder and CEO of Mindfulness Works Ltd. and a Professor of Practice at Ashridge Business School.

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Sharon Olivier

Sharon teaches, researches and consults in leadership and team development, particularly regarding inter-cultural intelligence, engagement, polarity management, emotional and transpersonal intelligence, mindfulness, personal and team resilience.

She started her career as an HR Manager in the motor industry, then led human capacity building in a large consulting company, after which she and her husband established a successful consulting practice (Impact Consulting) in South Africa. Clients have included Audi, BMW, Land Rover, De Beers, Anglo, University of Johannesburg and Sasol.

Sharon holds an MA in Organizational Psychology and a Management Advanced Program Certificate. She is a Master Practitioner in NLP and a psychoneuroimmunology practitioner. She has established a track record as an inspirational speaker at conferences and is an accredited Levity (how to lift the mood in an organization) facilitator. She has co-published a book on resilience Diamonds in the Dust and numerous conference papers on ego and eco leadership and employee engagement.

In 2014 Sharon immigrated to the UK with her 14-year-old son, Joshua and husband, Frederick. At Ashridge she is a Director in Open Programs.

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Lee Waller

Lee has worked in leadership development for thirteen years and is currently Director of the Research Fellows Specialist Services. Her research and teaching focuses on how we can maximize the learning experience for leaders and students through understanding more about the cognitive, behavioral, and neurological processes which are involved in adult learning. Lee teaches in the areas of neuroscience and learning, and developing a high performing learning organization.

As a prolific and passionate qualitative researcher Lee publishes widely, chairs academic conferences, guest edits Special Issues of peer review journals and teaches qualitative research methods.

Lee has an Honors degree in Psychology, and a Masters degree in Occupational Psychology and is nearing completion of a PhD in psychology which explores the experience of 'not belonging' in the workplace. She lives near Berkhamsted and is the mother to two beautiful daughters.

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