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RESEARCH REPORT

BUILDING RESILIENCE: FIVE KEY CAPABILITIES

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and Arun Thompson

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Executive Summary

Resilience is critical for leaders, particularly in times of change. Through an extensive literature review and a survey of contemporary UK managers, we have developed a robust model of personal resilience based on five key capabilities. These are:

Perspective – leaders exhibiting resilience are able to take a step back from a challenging situation, accept rather than deny its negative aspects whilst finding opportunity and meaning in the midst of adversity. Finding opportunity spurs active striving, the setting of goals and the taking of action to achieve them. Perspective-taking expands choice options, empowering rather than disabling. The act of gaining perspective allows resilient people to focus their efforts on those things they can change and accept those things they cannot.

Emotional intelligence – Being aware of, understanding and regulating our emotions is essential to resilience. Not being overtaken by our emotions but allowing space and time to process them. Resilient leaders are also aware of emotions and needs in others and are free and willing in the support they give. Helping others without explicit benefit to themselves, they care for and are compassionate towards both themselves and others.

Purpose, values and strengths – having a clear sense of purpose in our work, a belief that the work that we do is congruent with our personal values, and plays to our strengths are all key to resilience at work. Holding a clear sense of our own values and our own moral compass help us to keep centred when all around there is change and disruption.

Connections – leaders who are able to stay resilient in challenging times have a wide network of friends and colleagues, helping them access a full range of support needs from getting things done to a listening ear. Connections are not only one way, however, and there is a great deal of evidence to support the strength that helping others give us.

Managing physical energy – Keeping physically fit, eating well, and giving ourselves time away from work to engage in activities we enjoy and recuperate enables us to maintain our energy levels.

These five capabilities are inter-related. Developing capabilities in one domain is likely to have positive benefits in some or all of the other domains. For example, connecting with others is likely to help us maintain our perspective and generate options for solving problems that we experience. Equally, engaging in physically demanding leisure pursuits often provides the opportunity for connecting with others.

Everyone is to some extent resilient, and no-one is 100% resilient. Rather, an individual leader's resilience is likely to vary according to time and place. An individual leader is likely to be more resilient in some circumstances than others, and more or less resilient at different points in their life and career [1]. Resilience, then, is not static but rather a dynamic process characterised by an individual adapting more or less well to changing circumstances. Resilience, or the behaviours and attitudes that support it, are learnable. Our research has focused on capabilities that can be developed and which can help promote resilient behaviours and protect in times of stress. To aid leaders' capacity for resilience, we have:

- Developed a statistically robust model of personal resilience to aid thinking about and reflection on their own capacities for resilience
- Developed an online resilience tool available on Roffey Park's website (www.roffeypark.com/rci) which allows individual leaders to assess their own resilience capabilities at any point in time against a norm group of their peers
- Provided some practical tips on how to build resilience capabilities both throughout this report and as part of the online resilience tool

Introduction

What is resilience?

Why do some people appear to adapt to stressful situations better than others? Why do some people recover from adverse experiences whilst others do not? Why do some individuals manifest a capacity to cope with high work demands far more successfully than others? And why do some individuals seem to cope better with change? This is the topic of resilience, the process of negotiating, managing, and adapting to significant sources of stress or trauma. Resilience has attracted the attention of academics and practitioners working in a range of disciplines, but whatever the field of study the subject continues to fascinate and amaze.

The Oxford English Dictionary defines resilience in terms of how physical materials resume their shape after stretching or compression: '(Of elastic bodies) recoil, rebound, resume shape and size after stretching or compression; have or show elasticity or buoyancy or recuperative power' . Whilst this definition concerns physical objects, it is a useful analogy to the experience of resilience in people. Regaining some sense of our former selves after having been bent out of shape by difficult events. In his book, Aging well [2], Harvard University psychologist George Vaillant describes resilient individuals as resembling 'a twig with a fresh, green living core. When twisted out of shape, such a twig bends, but it does not break; instead it springs back and continues growing'. (p.285)

A more formal, scientific definition of resilience is that offered by Windle [3]: 'resilience is the process of negotiating, managing, and adapting to significant sources of stress or trauma. Assets and resources within the individual, their life and environment facilitate the capacity for adaptation in the face of adversity. Across the life course, the experience of resilience will vary'. Resilience, then, involves the experience of some form of adversity followed by positive adaptation to it. An important aspect of this definition is that it conceptualises resilience as a dynamic and interactive process, in which an individual seeks to manage and adjust to potentially harmful aspects of their environment. How an individual responds to a particular stressful situation, then, is viewed as a function of both the attributes and capacities of the individual at that time and the characteristics of the situation. Most people are resilient to some extent, but may be more or less so in some areas of their lives compared with others, and during some, but not all, phases of their lives. Nobody is completely and always resilient, or stress-proof. Windle's definition focuses on capabilities, with the implication that behaviours, beliefs and attitudes that promote resilience can be learnt. Indeed, a view of resilience as teachable is supported by what is emerging in the scientific world. Neuroscientists have discovered that brain structure is neither fixed nor static but, like muscles in the body, the brain can be strengthened or weakened depending on how it is used (for example [4]). This neuroplasticity means that, to some degree, each of us can influence the way our brains develop and operate. Indeed, evidence from studies of twins suggests that between 50 to 70 per cent of personality traits depend on our environment and the efforts we make to reach our potential.

The fact that resilience is manifested over time has led some authors [5] to propose different patterns of resilience. Of interest to us in a workplace context are the following patterns:

- Resistance – patterns of reasonably steady and positive adaptive behaviours in the presence of significant stress
- Recovery – an individual's adaptive function declines as a result of adversity, then returns to a positive level. This is normal and expected in situations of severe continuing adversity or sudden catastrophe, representing conditions so challenging that maintaining good adaptation is not expected.
- Transformation – adaptive functioning improves in the aftermath of adversity.

Different patterns may be evident in different situations, and for different people. There is no clear evidence on which patterns are evidenced by who and when, although it is interesting to think about how we model resilience and in what circumstances.

Origins and traditions of research on resilience

The focus of research into resilience has been on exploring naturally occurring variations in resilience capabilities, particularly with respect to children growing up in adverse settings and the response of individuals' (in particular whether or not they develop psychiatric conditions, such as major depression or post-traumatic stress disorder) to extremely traumatic life events, such as war, violence and assault. Much of the research, then, has focused on people in non-work contexts who manifest better than expected adaptation for the level of risk (e.g. in terms of exposure to certain events or predisposing factors).

Research on resilience in the context of the workplace is less well developed, although evidence from across disciplines seems to support a consistent set of factors supporting resilience. Within this report, we draw on findings from across a range of disciplines, including the latest thinking around neuroscience and how this might help us understand the complex processes underlying resilience.

Why study resilience now?

Latest estimates from the Labour Force Survey (LFS) suggest that the total number of cases of work-related stress in 2011/2012 was 428,000 [6]. That is two-fifths of all work-related illness, accounting for 10.4 million working days lost at an estimated cost to business of between £4 and £7 billion. Building resilience capabilities in individuals is one measure that can both reduce the economic and personal health burden.

Aside from the potential for greater resilience to reduce the economic and personal health burden of occupational stress, there is the potential for improved resilience capabilities to enable more effective responses to the ambiguity and turbulence of the modern business world. There is a growing consensus that with advances in technology and globalisation, leaders and managers need to be more fleet of foot and able to cope with what some have dubbed a VUCA (volatility, uncertainty, complexity, ambiguity) world and the anxiety that that entails. Indeed, leaders and managers we interviewed for this research highlighted the growing importance of resilience in their organisations.

'As businesses and technology move rapidly we all need to design mechanisms to cope with and respond to changing environments. We must be flexible, deal with ambiguity and be ready to respond'
(HR Manager, Construction Industry)

'I strongly believe workplaces need to do more to improve resilience at all levels. Having faced work and personal stress I have searched out coping mechanisms myself.'
(HR Manager, Financial Services)

'We try to measure for resilience as part of the selection process for senior positions – this is difficult but it has become increasingly clear that it is an essential component to be effective'
(Senior HR Manager, Local Government)

This report aims to:

- Provide an overview from existing academic and practitioner literature about what is known about personal resilience
- Offer a statistically robust model of personal resilience
- Set out a picture of how contemporary managers see their own capacity for resilience
- Offer some questions to aid reflection on individuals' capacity for resilience and practical tips to help support the development of personal resilience.

Our research has also informed the development of an online tool available on the Roffey Park website (www.roffeypark.com/rci) which managers can use to assess their own resilience capabilities compared with a norm group of their peers, and receive practical, tailored tips on how to boost their own resilience.

The report is set out as follows:

Research approach

Literature review

In the first stage of our research, we reviewed a wide range of academic and practitioner literature to identify factors that had been found to be supportive of resilience. We reviewed literature from across multiple disciplines and fields of study, including developmental psychology, positive psychology, occupational and environmental medicine, psychiatry, and others. We also used the literature review to help inform the development of an online survey.

Online survey of managers

For the next stage of the research, we designed an online survey largely based on the Practical Resilience at Work Scale developed by Winwood and colleagues [7]. This enabled us to use questions that had already been successfully tested and found to work well.

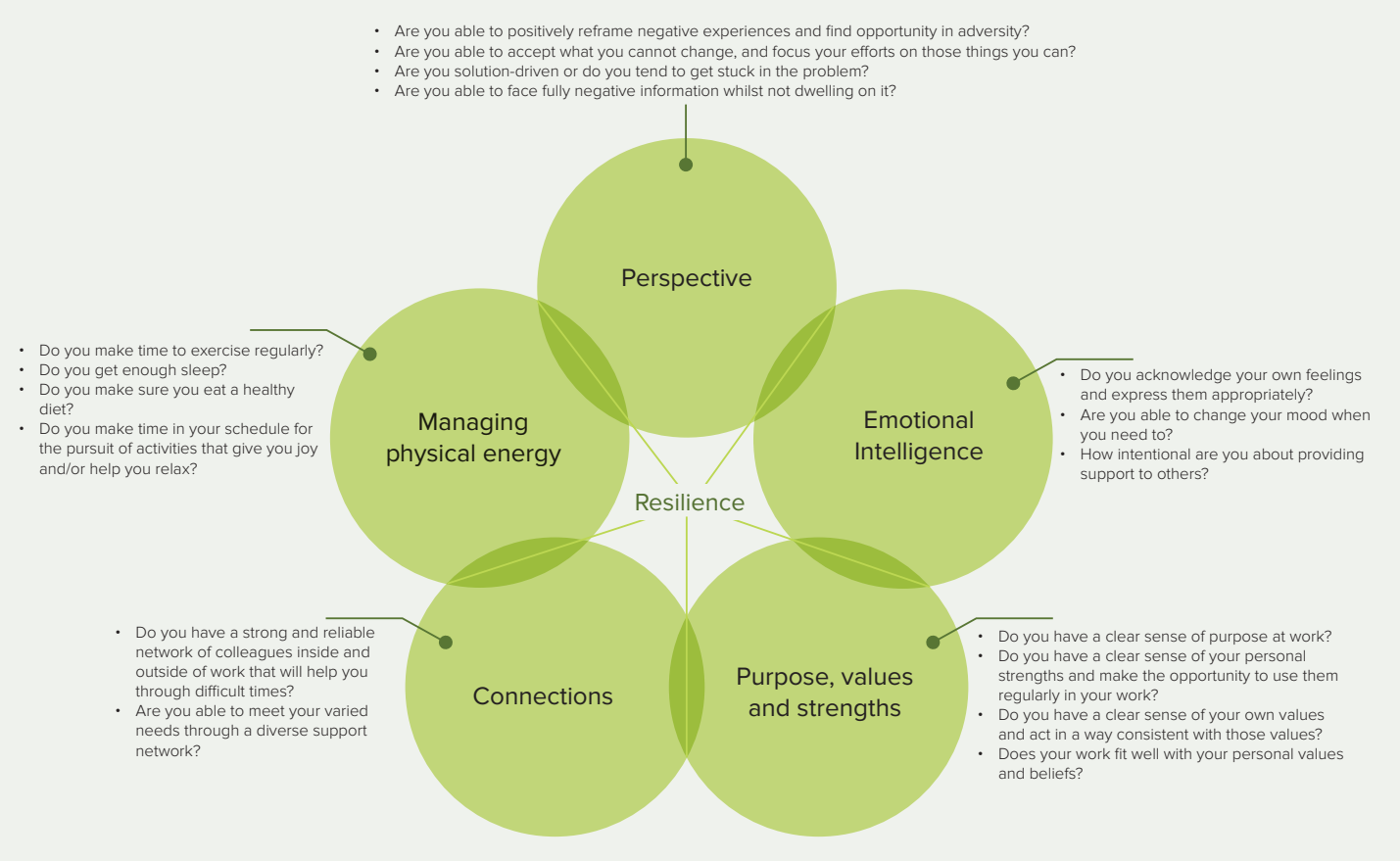
The survey was then administered using an online survey package. 1,079 respondents completed the survey. Respondents varied in terms of level of seniority and in terms of the sector and size of organisation they worked for. A profile of respondents is shown in appendix 1.

Survey results were analysed using confirmatory factor analysis (CFA) available as part of the SmartPLS software package. CFA is a particular form of factor analysis, used to test whether measures of a construct are consistent with the researcher's understanding of that construct, in this case resilience.

Resilience model

Figure 1 shows our model of resilience. The five circles are overlapping to emphasise the inter-relatedness of the five capabilities. In other words, building capabilites in one area is likely to have positive benefits in other areas. For example, building networks and connecting with others is likely to help us gain perspective in difficult times.

Figure 1 Resilience Capabilities Model



Note: Our model of resilience is based on an extensive review of literature from across multiple disciplines and fields of study, and a survey of over 1,000 managers. Initially, we identified factors influencing individual resilience and a set of questionnaire items from the literature. A survey of over 1,000 managers was then conducted to test the model using a confirmatory factor analysis (CFA).

Perspective

'Between stimulus and response there is a space. In that space is our power to choose our response. In our response lies our growth and our freedom'
Viktor Frankl, Holocaust survivor and developer of logotherapy ('healing through meaning')

'Men are not disturbed by the things that happen, but by their opinions about the things'
Epictetus (Stoic philosopher) AD 55-135

Resilient individuals have response-ability. They recognise that it is not events themselves that undo us but our response to them. They are able to mentally take a step back from challenging circumstances, accept the negative side of things whilst finding opportunity in the midst of adversity. They show cognitive flexibility and positively reframe negative experiences [8] [9] expanding choices for action. Accepting what they cannot change, resilient individuals focus their efforts on those things they can change. This focus promotes active striving and the setting of goals and plans to achieve them. Whilst less resilient individuals, or more precisely, individuals in a less resilient moment, may deny the existence of the adversity they face (a passive coping style), those in a more resilient frame of mind adopt an active coping style [10] characterised by a problem-solving approach.

WHAT HAPPENS TO US ▶ **OUR CHOICE** ▶ **OUR RESPONSE**

WE HAVE "RESPONSE-ABILITY"

There is evidence to suggest a facilitative role of positive emotions in perspective-taking. Work by Barbara Fredrickson [11] describes how positive emotions increase the range of action choices we can conceptualise, enhance decision-making capabilities and motivate us to take action. In contrast, negative emotions tend to narrow our attention and limit our choices. Her broaden-and-build theory describes how positive emotions broaden our thought and action repertoires leading to enhanced personal resources (e.g. skills, social support, knowledge) and fulfilment, and as a consequence more positive emotions.

Whilst our mood affects the way we think, we can also think ourselves into a negative state of mind, narrowing our perspective and limiting our perceived options. Seligman [14] has investigated and contrasted the explanatory styles (how people explain events to

Box 1 : The impact of positive emotions

Researchers have investigated the impact of positive emotions and optimism on health outcomes as well as aspects of cognitive performance such as problem-solving skills and our ability to be creative.

Danner et al [12] conducted an interesting study involving 180 nuns from School Sisters of Notre Dame, examining the relationship between indications of optimism at the time of initiation into the Sisterhood and subsequent length of life. The study used autobiographical sketches to assess levels of unhappiness, degree of religious devotion and positive emotions written prior to the nuns taking their vows of commitment to God and the Church. The research found that the degree of positive emotion expressed in the autobiographical sketches was significantly related to future longevity. It was discovered that the nuns whose autobiographical sketch was rated as being in the most cheerful quarter, were still alive at the age of 85. By comparison, only 34 per cent of the nuns whose autobiographical sketches were rated as being in the least cheerful quarter, were still alive at the age of 85. Also, 54 percent of the most cheerful quarter were alive at the age ninety-four versus 11 percent of the least cheerful quarter. The great value in this study is that the nuns had spent a large part of their lives in the same environment with the same diet, healthcare etc, effectively isolating the impact of positive emotions on longevity.

In a separate study, researchers from the University of Kentucky found that changes in expectations (in favour of being more optimistic) were associated with improvements in cell-mediated immunity (i.e immunity which protects against microbes that are living within hosts such as viruses) [13].

Another experiment involving 4 year-old children found that groups of children encouraged to think of events that made them feel happy performed much better at a learning task than those who had been given a neutral instruction (ibid).

themselves and others) of pessimists and optimists. Pessimists tend to believe that the negative consequences of an event:

- Will last forever (so-called permanence)
- Will affect many or all areas of their lives (universality)
- And are a result of their own failings.

Pessimists also tend to choose self-limiting beliefs when faced with challenging circumstances. They tend to:

- Exaggerate the size of the challenge or perceived threat
- Overgeneralise the nature and extent of the problem faced
- Create negative self-statements and underestimate their capacity to adapt positively

In contrast, optimists are considered to have a more adaptive explanatory style, regarding negative events as temporary, limited in scope and a result of 'bad luck'. Optimists also tend to minimise the threat posed by challenging circumstances and rate their ability to cope positively, a belief which supports active striving. Optimists tend to have an internal rather than external locus of control [15]. Locus of control [16] is a concept that describes the extent to which an individual believes they themselves (internal locus of control) or outside influences (external locus of control) are responsible for future outcomes. Individuals with an internal locus of control are seen as taking a positive view of their own ability to influence events and to persist in the face of obstacles.

Neuroscientists have demonstrated how changing the way we think can cause changes in activation in brain regions associated with the processing of 'raw' emotions such as fear and anxiety. In a series of fMRI (functional Magnetic Resonance Imaging) studies [17], participants were instructed to reinterpret visual stimuli (e.g. negative or neutral images) while being scanned. Participants were asked to pay attention and respond naturally to a set of pictures that depicted different situations, some negative in content. Study participants were then instructed to reinterpret these situations so that they felt less negative about them. Reappraisal of negative situations successfully decreased negative emotions, increased activation in areas of the prefrontal cortex related to cognitive control, and decreased activation of the amygdala (a part of the brain involved in processing 'raw' emotions such as fear and anxiety).

These studies, alongside evidence that 50 to 70 per cent of personality traits are a result of nurture rather than nature, suggest that the way we think is malleable and open to change. There are a multitude of successful and well-evidenced therapies and approaches which aim to help us do just that, such as Cognitive-Behavioural Therapy (CBT).

Meaning-making

> *'Deep down, in my opinion, man is dominated by neither the will to pleasure, nor by the will to power, but what I will call the will to meaning: his deep-seated striving and struggling for a higher and ultimate meaning to his existence'*
> Viktor Frankl, Holocaust survivor and developer of logotherapy ('healing through meaning')

The act of reappraising a negative experience can initiate a search for meaning, either in work or more generally in our lives. The literature on resilience is replete with stories of individuals for whom the experience of adversity has prompted a search for meaning, and led to a reappraisal of their perception of self, relations with others and their philosophy of life. In other words, what matters to them. Tedeschi's post-traumatic growth theory [21] describes the positive personal growth that some people experience following trauma.

Box 2: The Neuroscience of perspective

Imaging studies of responses to various emotional stimuli have identified the amygdala and regions of the medial prefrontal cortex (mPFC) as potentially important for resilience. The amygdala is the region of the brain involved in the processing of 'raw emotions' such as fear, and is central to the 'fight or flight' response. The prefrontal cortex is often referred to as the brain's executive centre, responsible for setting goals, planning, guiding behaviour and regulating emotions. Psychological constructs important in gaining perspective such as cognitive flexibility and active coping strategies may depend on top-down control of amygdala function by prefrontal cortical regions [18] .

The anterior cingulate cortex (ACC), ventral-tegmental area, and the nucleus accumbens – the reward circuitry of the brain – may play a role in resilience [1]. Whilst these areas are activated when we engage in enjoyable behaviours, researchers have found that activity in these circuits is reduced when we experience acute stress [19]. In addition, the neurotransmitter (a chemical released by nerve cells to send signals to other nerve cells) dopamine has been found to improve cognitive flexibility and perspective-taking [20]. Dopamine plays a key role in reward-motivated behaviour and this link to improved perspective-taking may be linked to the experience of positive emotions.

Tedeschi identified five domains in which trauma survivors report growth. These are:

- Personal strength – survivors of trauma speak of becoming personally stronger, resilient, more authentic, open, creative, alive and mature. Many say they are better people.
- Relating to others – Friendship and family relations seem to get stronger and more meaningful after the trauma. There is a sense of tighter bonds between people.
- Appreciation for life – After trauma, some people report that they value life more profoundly and want to make the most of every day. They find themselves reflecting more on the meaning of life and their own mortality than they did prior to the event.
- New possibilities – survivors often change their life goals and ambitions
- Spiritual change – people reconsider religions and spiritual beliefs[1]

Why does this happen? One theory, Janoff-Bulman's [22] shattered assumptions theory, proposes that our inner world in which we keep our sense of safety and security is shattered by trauma, and it is the process of rebuilding that inner world which leads to a sense of growth and personal development. Whilst the exact nature of the process is unclear, it is evident from the accounts of trauma survivors that finding meaning in adversity plays a role in adapting positively to negative experiences.

How well are contemporary UK managers able to gain perspective?

We asked a sample of contemporary managers in the UK how they rated their own ability to maintain their sense of perspective. Roughly one-third of managers (33 per cent) disagreed that 'nothing at work ever really 'fazes me' for long', whilst just over half (56 per cent) of managers agreed that 'when things go wrong at work, it usually tends to overshadow other parts of my life'. It seems, then, that a significant minority of managers may struggle to maintain their sense of perspective when 'stuff' happens at work whilst a majority may be inclined to take their worries home with them. Managing the mental boundary between work and home life emerges as a challenge.

1 There is a reasonable degree of scientific evidence linking religious faith with positive health outcomes as well as resilience(see [1], page 92). The reasons for the association are unclear, but it may be that following a religion may foster a number of the resilience-promoting factors referred to in this report. It may offer a purpose and meaning in life as well as the opportunity to both give and receive social support.

Emotional Intelligence

The importance of intrapersonal and interpersonal awareness for resilience has been borne out in studies of childhood as well as adult resilience [23].

Regulating our emotions

Adapting successfully to adversity requires that we control our emotions and impulses to evaluate information, plan, coordinate actions and problem solve. By learning to regulate our emotions, we can direct our energy into productive responses. There are a number of potential activities that can help us regulate our emotions, and scientific advances in neurobiology are helping us to understand how these activities work. One technique that is currently popular is that of mindfulness. Mindfulness is 'the intentional, accepting and non-judgmental focus of one's attention on the emotions, thoughts and sensations occurring in the present moment' [24]. Mindfulness has been shown to help individuals to become more emotionally aware and to cope with symptoms of stress, anxiety and depression [25][26]. A number of studies have reported an association between mindfulness and increased activation of the prefrontal cortex (the brain's executive centre involved in planning and decision-making) and decreased activation of the amygdala [27]. Modulation of the amygdala by prefrontal cortical systems is thought to play an important role in emotion regulation. Recent research has also identified greater activation of the anterior cingulate cortex (ACC) in experienced compared with novice meditators. Researchers speculate that the ACC may help regulate and focus attention in the face of distracting memories and events (Ibid).

Interpersonal awareness and altruism

Our ability to meaningfully connect with and help others supports our ability to be resilient also. Altruism, defined as the 'disinterested and selfless concern for the well-being of others', has been associated with positive mental health and well-being, better life and marital adjustment, and physical health status [27]. Schwartz and Sendor [28] found that individuals with multiple sclerosis who were trained to deliver support to their peers experienced significant improvements in well-being. In another study by Schwartz et al [29] of members of the Presbyterian Church, positive mental health was most common among church members who either helped others or received help from others. Giving help was more strongly associated with positive mental health than receiving help. Zimrin's longitudinal study of physically abused Israeli children [30] found that the children who adapted well over time were more likely to assume responsibility for someone else than those who fared poorly. Schwartz [29] suggests that helping others may lead to better mental health and reduced stress through shifting attention from ourselves to others, enhancing self-confidence, self-acceptance and perceived meaning in life.

The neurobiology of altruism

Altruism has been studied across disciplines including experimental psychology, anthropology and ethology (the study of animal behaviour). There is evidence to suggest that altruism has a survival value attached to it and cooperative behaviours may be reinforced by neurobiological mechanisms. Studies have shown that among native South American forager-horticulturalists, those individuals who share more food than average are rewarded during times of hardship by receiving greater quantities of food from a larger number of people than those who produce and share a below-average amount of food. This, 'reciprocal altrusim', confers other benefits in terms of enhanced reputation and power, greater mating opportunities, and privileged access to resources at times of stress [31]. Neuroscience has also investigated brain mechanisms involved in social cooperation. Cooperation consistently activates brain regions (dopamine nucleus accumbens system) that are known to be involved in the processing of reward. Mutual cooperation, then, may leave an individual feeling good and wanting to repeat similar behaviours. This reward system may reinforce the survival value of social cooperation.

How do contemporary UK managers fare with respect to our construct of emotional intelligence?

The vast majority of managers we surveyed reported a belief in giving help to others at work (98%) and acknowledging the efforts and successes of their colleagues (99%). Whilst these results are positive, they are perhaps not surprising giving the self-reported nature of the data. On the whole managers also seem comfortable with their ability to manage their own mood at work (85 % of managers reported feeling able to manage their mood), although 15 per cent reported that they did not feel able to change their mood at work when they needed to.

Purpose, values and strengths

Having a clear sense of our core – purpose, values and strengths - can enhance our capacity for resilience in times of stress. Knowing our own values and finding work that fits with those values can help provide a sense of congruence. Our values also provide us with a sense of right and wrong, a moral compass. Having a clear purpose at work gives us a sense of direction, a reason for being beyond being liked or accepted, and enables us to better manage competing priorities and boundaries. Allied with the opportunity to use our strengths at work, clarity about purpose and values help ensure that we feel that we 'fit' at work.

Previous pioneering research work conducted by Roffey Park [32] has highlighted the value of meaning at work and individuals' search for it. A job may be a source of financial security, a means of advancement, or it may also be seen as fulfilling, socially useful work. The ability to see our work as the latter may enhance resilience. In one study, Bartone [33] found that city bus drivers who were proud of their work and found it to be meaningful responded better when faced with work-related stress than those who saw their work as just a job. In another 12-year longitudinal study, Maddi [34] found that workers who expressed a sense of purpose in their work and other activities were more resilient during an organisational crisis than those workers who did not express such a sense of purpose.

Knowing our values and what is important to us provides us both with a moral compass and a buffer against physiological and psychological stress. Researchers have found that thinking about and affirming one's personal values can diminish perceptions of threat, reduce defensive responses to threatening information, and decrease rumination after failure[23]. Focussing on personal vales has been found to buffer physiological and psychological stress responses during a challenging laboratory test. Cresswell et al [35] found that college students who reflected on and affirmed their most important personal values immediately prior to a stressful laboratory test had significantly lower responses of the stress hormone cortisol compared to students who reflected on and affirmed values that were not personally important to them.

To what extent do contemporary UK managers feel a sense of 'fit' in their role?

Roughly three-quarters of the managers we surveyed felt that their work helped them fulfil their sense of purpose in life (75%) and that their workplace was somewhere they felt they belonged (73%). Encouragingly, nine in ten managers felt that their work was congruent with their personal values and beliefs (90%) and offered the opportunity to use their strengths (95%). Overall, then, the picture is an encouraging one although one quarter of managers still feel like square pegs in round holes, a concern for their capacity for resilience.

Connections

'Resilience, rests, fundamentally, on relationships' [36].

Strong social support networks and connections are associated with resilience to stress, positive physical and mental health (see Box 3). Both breadth and depth of relationships are important. Extensive networks provide access to varied types of support, both practical, informational and emotional. Effective social support typically involves communication that reaches beyond the superficial and involves giving as well as receiving support. Work by Mehl et al [37] found that conversations of a substantive nature as opposed to 'small talk' were correlated with greater happiness. Giving support is as, if not more, important than receiving it. In a study of older adults, researchers found no relationship between the amount of social support study participants received and mortality, but did find a relationship between mortality and the amount of social support participants gave to others [38].

Box 3: The impact of social support on mental and physical health

Research has shown that health patients with high levels of social support are less likely to become clinically depressed. This effect has been shown across a wide range of health conditions from cancer [39], cardiac illness [40], rheumatoid arthritis [41] , and multiple sclerosis [42]. Strong social support has also been shown to increase the likelihood of recovering from depression following trauma.

Some researchers have suggested that the impact of social support on physical health could be as large as that of obesity, smoking or levels of physical activity. Inadequate social support has been shown to be associated with a three-fold increase in subsequent cardiac events among patients who have already had a heart attack [43].

In a study of 215 international humanitarian workers, those with high social support reported less experience of trauma. When humanitarian workers with low social support were compared to those with medium to high levels of support, staff with low support were:

- 4 times more likely to experience traumatisation
- 3 times more likely to experience some form of 'unwellness' [44]

The neuroscience of social support

Researchers have found that the hormone oxytocin enhances prosocial behaviour, facilitating the recognition of a familiar face, inferring the mental state of another person, and promoting trust and social approach [45]. It also plays a role in reducing anxiety during the experience of stressful events by dampening the system that produces cortisol and inhibiting the amygdala [45].

In one study [46], researchers put participants through two stress tests. The first test involved a mock job interview before a panel of strangers. The second involved asking participants to solve an arithmetic problem in their heads, during which they were pushed by the panel to think faster. Participants were asked to either come to the experiment alone or invited to bring a friend. They were also either given a dose of oxytocin by nasal spray or a placebo. Four separate experimental groups were created as a result. Levels of stress during the two tasks were assessed using cortisol levels in the saliva of the participants at several points during the tests. The lowest levels of cortisol were found in those participants who had attended with a friend and who had received oxytocin.

How do UK managers rate their degree of connectedness?

Our survey of managers suggest that roughly four-fifths feel that they have adequate social support to draw on. 81 per cent of managers agreed with the statement 'I have friends at work whom I can rely on to support me when I need it'. An almost exact proportion of managers (80 per cent) agreed with the statement 'I have a strong and reliable network of supportive colleagues at work'. This does still leave one-fifth of managers feeling that they do not have a strong and reliable network of colleagues at work and perhaps could do more to enhance their resilience capabilities.

Managing physical energy

We cannot open a newspaper nowadays without encountering an article detailing the benefits of a healthy diet and regular physical exercise, or indeed the risks to our health of not doing so. Equally prevalent is research showing how many of us fail to live a healthy lifestyle, with talk of an obesity crisis either with us already or on the immediate horizon. In a series of articles in the Lancet (a leading general medical journal) timed to coincide with the 2012 Olympics, researchers from 16 countries outlined the health burden created by physical inactivity. Two out of three adults in the UK do not achieve the recommended levels of moderate aerobic physical activity and researchers estimated that lack of activity is responsible for 5.3m deaths per year worldwide (about the same number as smoking). If we do manage to exercise, the benefits are wide ranging from improved mood, cognition (i.e. thinking), physical and mental health. Dr I-Min Lee of Harvard Medical School puts it nicely by saying that 'everything that gets worse when we get older, gets better when we exercise' [47]. Exercise can also contribute to the level of positive emotions we experience and our sense of optimism, enhancing our ability to find opportunity in adverse circumstances.

The neuroscience of exercise and resilience

Exercise has been shown to increase the concentration of endorphins and certain neurotransmitters (e.g. serotonin and dopamine) in the brain. The former is known to improve mood and the latter to lessen depression. Regular exercise has also been shown to lower cortisol production released in response to chronic stress. High levels of cortisol can damage neurons in the hippocampus (a region of the brain involved in learning, forming new memories and regulating the stress response) over time. Aerobic exercise also enhances the production of neurotrophic factors, proteins which promote the growth and repair of brain cells. Chronic stress is known to impair the production of such proteins.

Making time for rest and recovery

Getting enough exercise is only part of managing our energy and staying healthy. Rest and recovery go hand in hand with an active lifestyle and maintaining energy levels. A healthy diet and getting enough sleep are both supportive of improved resilience and our ability to manage and recover from stress.

Good sleep hygiene enhances recovery, physical and emotional health. Getting fewer than eight hours sleep per night on a regular basis has been linked to a range of health conditions, from obesity and type 2 diabetes to cardiovascular disease and hypertension. The impact of insufficient sleep on immune function has also been well documented. In one study, people who averaged less than seven hours sleep a night were about three times more likely to develop cold symptoms than study volunteers who got eight or more hours sleep when exposed to the rhinovirus (which causes the common cold) [53]. The mechanisms by which insufficient sleep affects poor health have been investigated, and one route is via the impact lack of sleep has on the levels of hormones associated with the stress response. Sleep and mood are also closely related, with lack of sleep affecting our mood and our mood affecting our ability to get a good night's rest. Researchers have also demonstrated the adverse impact of lack of sleep on our ability to learn (e.g. [54]), and so lack of sleep may affect our ability to 'learn as you go', something which is of increasing relevance to managers asked to cope with ambiguity.

The neuroscience of recovery

Researchers have demonstrated the negative impact on our brains' and bodies of failing to shut off our own stress response. Chronic stress can lead to changes in neurons located in the amygdala, hippocampus and prefrontal cortex that may lead to anxiety, memory impairment, depressed mood and diminished mental flexibility (McEwen, 2006). The neurochemical, neuropeptide Y, has been implicated in restoring calm after stress by

Box 4: The benefits of regular, aerobic exercise

Aerobic exercise can be as helpful in reducing symptoms of depression as anti-depressant drugs for individuals suffering major depression but with less likelihood of relapse [48]. The benefits of regular aerobic exercise extend to mild symptoms of depression in people not formally diagnosed with depression [49]. Regular aerobic exercise has also been shown to reduce anxiety in both healthy individuals and those diagnosed with an anxiety disorder [50]. In some studies, aerobic exercise has been shown not just to alleviate symptoms of depression and anxiety, but also to protect against future stress and depression. Scientific evidence also shows the benefits of physical exercise for cognition (thinking), including positive impacts on planning, decision-making, attention, inhibition and memory [51]. Exercise in midlife is associated with decreased rates of developing dementia and Alzheimer's disease [52].

inhibiting the release of norepinephrine (released initially in response to high stress). Another neurochemical, dehydroepiandrosterone (DHEA) appears to be released under conditions of stress and to protect against the potentially damaging effects of cortisol.

How well are today's managers looking after themselves?

Roughly one-third of managers' report having difficulty maintaining a good level of fitness and/or eating well. 32 per cent of managers' disagreed with the statement 'I have a good level of physical fitness'. 28 per cent disagreed with the statement 'I am careful about eating well and healthily. It seems that a significant minority of managers also struggle to find ways of relaxing when under pressure at work. 33 per cent disagreed with the statement 'I have developed some reliable ways to deal with the personal stress of challenging events at work' whilst 40 per cent disagreed with the statement 'I have developed some reliable ways to relax when I am under pressure at work`. A majority of managers (51 per cent) reported not taking sufficient breaks to maintain their strength and energy levels when working hard.

Final thoughts and practical tips for developing personal resilience

Most people are resilient to some extent, but may be more or less so in some areas of their lives compared with others, and during some, but not all, phases of their lives. Nobody is completely and always resilient, or stress-proof. Resilience is a dynamic and interactive process, the capability for which can be developed and maintained by careful management. We have identified five key capabilities for resilience: perspective; purpose, values and strengths; emotional intelligence; connections; and managing physical energy. To help practicing managers develop and maintain their own capacity for resilience, we have suggested some practical tips relating to each of the five key capabilities below.

PERSPECTIVE

- Recognise that perceptions and the way we think about challenges drives feelings, not the situation. Practice uncovering and challenging negative beliefs, empowering new, more positive beliefs.
- Seek out and attend to positive emotions.
- Step into your successes and acknowledge what you have done well.
- Take control and adopt a proactive attitude. Focus on what you can change rather than focusing on what you cannot.
- Subject issues of concern to the chip paper test – will what is worrying you still be important tomorrow, in 3 months, in 6 months? How important really is it?
- When worrying about something seemingly outside your control, check first that you cannot influence events in some way. If it is really out of your control, ask yourself:
  - What's the worse that could happen?
  - What's the best that could happen?
  - What's most likely to happen?
  - What three actions will help me prepare for the most likely scenario?

PURPOSE, VALUES AND STRENGTHS

- Take some time to reflect on the following questions:
  - What is your purpose at work/outside of work?
  - What one thing could you start doing/do more of that would help you focus on your purpose at work/outside of work?
  - What one thing could you stop doing/do less of that would have minimum negative impact, but would release time that you could focus on achieving your purpose at work/outside of work?
  - What is most important to you? What do you value? How does work fit/not fit with your personal values?
  - What are your strengths? How could you use more of your strengths at work?
- Consider completing a personality or strengths profile to identify your strengths.
- Consider writing your own personal mission statement.

EMOTIONAL INTELLIGENCE

- Acknowledge your own feelings and express them appropriately. An easy way to say this is: Feel it, name it, express it.
- Find ways to help you become more aware of, and process, your own emotions. Practising mindfulness is one of many ways in which we can become more aware of our emotions.

CONNECTIONS

- Make time to network with colleagues and develop an extensive set of relationships that will help you through difficult times.
- Invest time in mutually supportive relationships.
- Help others, at and/or outside work.
- Social support is multi-faceted, and it is worth thinking about both who is in your support network and what types of support they offer. Are you getting the different types of support that you need, and if not, where could you get that support? For example, do you have people in your support network who: make you feel valued and competent; challenge you and provide constructive feedback; provide support in a crisis; you feel comfortable sharing good news with; you feel comfortable sharing bad news with; introduce you to new ideas, people and interests; you just enjoy talking to; you can feel close to; you can rely on.

MANAGING PHYSICAL ENERGY

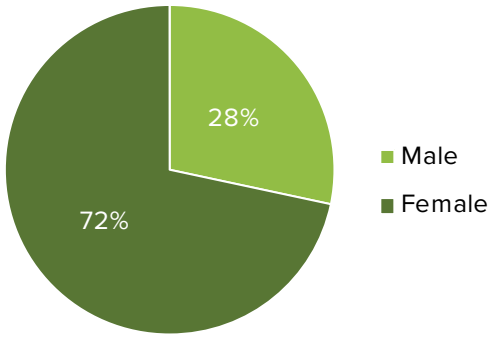
- Exercise regularly. Current recommendations are to undertake at least 150 minutes of moderate-intensity aerobic activity (e.g. fast walking or cycling) per week combined with strength exercises on two days per week (e.g. yoga, weight lifting, resistance exercises)[2]. Find an activity/activities you enjoy and that you will be able to maintain.
- Manage boundaries between work and home life. Find ways to 'switch off'.
- Take regular breaks when at work. Eat lunch away from your desk.
- Find ways to relax when under pressure. Mindfulness exercises are one option.
- Get enough sleep. Typically you need an average of eight hours sleep per day. Practice good sleep hygiene – maintain a regular sleep and wake pattern seven days per week; establish a regular, relaxing bedtime routine; avoid stimulants such as caffeine, nicotine and alcohol close to bedtime; avoid reading, watching TV or listening to the radio in bed- use your bed for sleeping.
- Eat healthily.

To assess your own current capability for resilience, consider completing Roffey Park's online resilience tool available at www.roffeypark.com/rci.

2 http://www.nhs.uk/Livewell/fitness/Pages/physical-activity-guidelines-for-adults.aspx accessed on 3rd September, 2014.

Appendix 1 – Respondent profile

Respondent profile by gender



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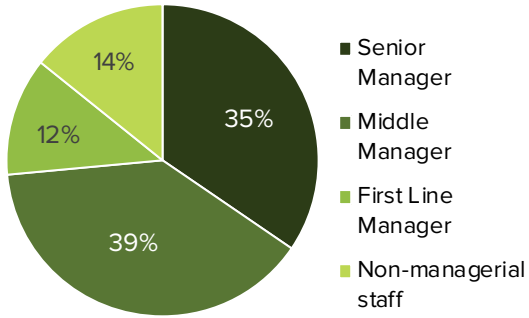
Respondent profile by seniority



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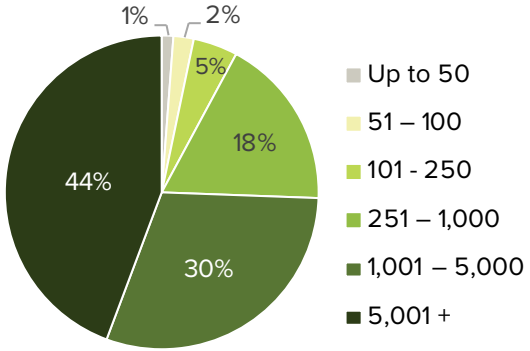
Respondent profile by size of organisation (employee size)



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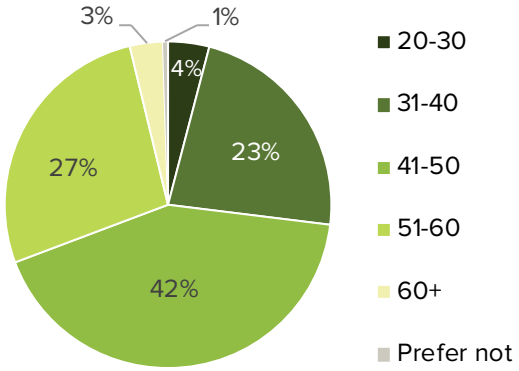
Respondent profile by age



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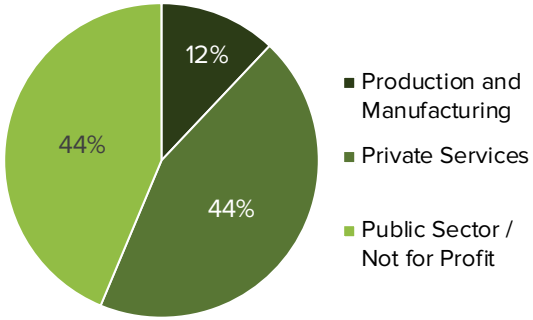
Respondent profile by broad industrial sector



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Appendix 2 – Descriptive Statistics

Table 1 : Percentage of managers agreeing/disagreeing with resilience questionaire items

	Disagree	Agree
I have important core values that I hold fast to in my work life	3.4%	96.6%
I am able to change my mood at work when I need to	15.6%	84.4%
I know my personal strengths and I use them regularly in my work	4.8%	95.2%
The work that I do helps to fulfil my sense of purpose in life	25.1%	74.9%
My workplace is somewhere where I feel that I belong	26.6%	73.4%
The work that I do fits well with my personal values and beliefs	9.6%	90.4%
Generally I appreciate what I have in my work environment	6.6%	93.4%
When things go wrong at work, it usually tends to overshadow the other parts of my life	43.6%	56.4%
Nothing at work ever really “fazes me” for long	33.0%	67.0%
Negative people at work tend to pull me down	48.8%	51.2%
I make sure I take breaks to maintain my strength and energy when I am working hard	51.2%	48.8%
I have developed some reliable ways to relax when I am under pressure at work	40.2%	59.8%
I have developed some reliable ways to deal with the personal stress of challenging events at work	33.4%	66.6%
I am careful to ensure that my work does not dominate my personal life	35.0%	65.0%
I often ask for feedback so that I can improve my work performance	29.1%	70.9%
I believe in giving help to my work colleagues, as well as asking for it	1.5%	98.5%
I am very willing to acknowledge others’ effort and successes in my workplace	1.0%	99.0%
I have a good level of physical fitness	31.5%	68.5%
I am careful about eating well and healthily	28.0%	72.0%
I have friends at work whom I can rely on to support me when I need it	18.7%	81.3%
I have a strong and reliable network of supportive colleagues at work	19.1%	80.9%

Table 2: Percentage of managers rating themselves positively/negatively with respect to resilience model constructs

	Disagree	Agree
Perspective	44.7%	55.3%
Emotional intelligence	6.0%	94.0%
Purpose, values and strength	12.7%	87.3%
Connections	18.9%	81.1%
Managing Physical energy	36.0%	64.0%

Table 3: Percentage of managers by level of seniority rating themselves positively with respect to resilience model constructs

	Senior Manager	Middle Manager	First Line Manager	Non-Managerial Staff
Perspective	54%	48%	51%	53%
Emotional intelligence	89.8%	87.1%	85.6%	85.8%
Purpose, values and strength	82.5%	76.6%	70.7%	70.5%
Connections	71.8%	73.1%	67.1%	67.6%
Managing Physical energy	53.5%	48.3%	51.0%	52.6%

References

[1] S. Southwick and D. Charney, Resilience: The science of mastering life's greatest challenges. Cambridge: Cambridge University Press, 2012.

[2] J. Mitchell, "Aging Well: Surprising Guideposts to a Happier Life From the Landmark Harvard Study of Adult Development," American Journal of Psychiatry, vol. 161, no. 1, pp. 178–179, 2004.

[3] M. Earvolino-Ramirez, "Resilience: A concept analysis," Nursing Forum, vol. 42, no. 2, pp. 73–82, 2007.

[4] T. Elbert, C. Pantev, C. Wienbruch, B. Rockstroh, and E. Taub, "Increased cortical representation of the fingers of the left hand in string players," Science, vol. 270, no. 5234, pp. 305–307, 1995.

[5] G. Bonanno, "Loss, trauma, and human resilience: have we underestimated the human capacity to thrive after extremely aversive events?," American psychologist, vol. 59, no. 1, p. 20, 2004.

[6] HSE, "Health and Safety Executive Annual Statistics Report," 2012.

[7] P. Winwood, R. Colon, and K. McEwen, "A Practical Measure of Workplace Resilience: Developing the Resilience at Work Scale," Journal of Occupational and Environmental Medicine vol. 55, no. 10, pp. 1205–1212, 2013.

[8] C. Aldwin, M. Levenson, and A. Spiro, "Vulnerability and resilience to combat exposure: Can stress have lifelong effects?," Psychology and aging, vol. 9, no. 1, p. 34, 1994.

[9] J. Barnett, C. Salmond, P. Jones, and B. Sahakian, "Cognitive reserve in schizophrenia," Psychological Medicine, vol. 36, pp. 1053–1064, 2006 taken from R. Elliott, B. Sahakian, and D. Charney, "State of Science Review: E7. The Neural Basis of Resilience," Foresight Mental Capital and Wellbeing, 2008.

[10] E. Sharkansky, D. King, and L. King, "Coping with Gulf War combat stress: Mediating and moderating effects.," Journal of Abnormal Psychology, vol. 109, no. 2, p. 188, 2000.

[11] B. Fredrickson and M. Cohn, "Positive Emotions," in Handbook of Emotions, 3rd ed., M. Lewis, J. Haviland-Jones, and L. Barrett, Eds. New York: Guildford Press, 2008, pp. 777–796.

[12] D. Danner, "Positive emotions in early life and longevity: findings from the nun study.," Journal of personality and Social Psychology, vol. 80, no. 5, pp. 448–455, 2001.

[13] S. Segerstrom and S. Sephton, "Optimistic Expectancies and Cell-Mediated Immunity The Role of Positive Affect," Psychological Science, vol. 21, no. 3, pp. 448–455, 2010.

[14] M. Seligman, Authentic happiness: Using the new positive psychology to realize your potential for lasting fulfillment. New York: Free Press, 2002.

[15] S. Guarnera and R. Williams, "Optimism and locus of control for health and affiliation among elderly adults," Journal of Gerontology, vol. 42, no. 6, pp. 594–595, 1987.

[16] J. Rotter, Social learning and clinical psychology. New York: Prentice-Hall, 1954.

[17] K. Ochsner and S. Bunge, "Rethinking feelings: an FMRI study of the cognitive regulation of emotion," Journal of Cognitive Neuroscience, vol. 14, pp. 1215–1229, 2002.

[18] R. Elliott, B. Sahakian, and D. Charney, "State of Science Review: E7. The Neural Basis of Resilience," Foresight Mental Capital and Wellbeing, 2008.

[19] E. Nestler and W. Carlezon Jr, "The mesolimbic dopamine reward circuit in depression," Biological psychiatry, vol. 59, no. 12, pp. 1151–1159, 2006.

[20] A. M. Isen, "The influence of positive and negative affect on cognitive organization: Some implications for development," in Psychological and biological approaches to emotion, N. L. Stein, B. Leventhla, and T. Trabasso, Eds. NJ: Lawrence Erlbaum Associates, 1990.

[21] R. Tedeschi, C. Park, and L. Calhoun, Post-Traumatic Growth: Theory and Research on Change in the Aftermath of Crises. Mawah NJ: Lawrence Erlbaum, 1998.

[22] R. Janoff-Bulman, Shattered assumptions: towards a new psychology of trauma. 1992. SimonandSchuster.com, 1992.

[23] A. Masten and M. Wright, Resilience over the lifespan: Developmental perspectives on resistance, recovery, and transformation. 2009, pp. 213–237.

[24] A. Zgierska, D. Rabago, and N. Chawla, “Mindfulness meditation for substance use disorders: A systematic review,” Substance Abuse, vol. 30, no. 4, pp. 266–294, 2009.

[25] A. Niazi and S. Niazi, “Mindfulness-based stress reduction: A non-pharmacological approach for chronic illnesses,” North American journal of medical sciences, vol. 3, no. 1, pp. 20–23, 2011.

[26] E. Bohlmeijer, R. Prenger, E. Taal, and P. Cuijpers, “The effects of mindfulness-based stress reduction therapy on mental health of adults with a chronic medical disease: a meta-analysis,” Journal of psychosomatic research, vol. 68, no. 6, pp. 539–544, 2010.

[27] B. Hölzel, J. Carmody, and M. Vangel, “Mindfulness practice leads to increases in regional brain gray matter density,” Psychiatry Research: Neuroimaging, vol. 65, no. 5, pp. 778–785, 2003.

[28] C. Schwartz and R. Sendor, “Helping others helps oneself: response shift effects in peer support,” Social science & medicine, 1999.

[29] C. Schwartz and J. Meisenhelder, “Altruistic social interest behaviors are associated with better mental health,” Psychosomatic Medicine 2003.

[30] H. Zimrin, “A profile of survival,” Child abuse & neglect, vol. 10, no. 3, pp. 339–349, 1986.

[31] Y. Shapiro and G. Gabbard, “A reconsideration of altruism from an evolutionary and psychodynamic perspective,” Ethics & Behaviour, vol. 4, no. 1, pp. 23–42, 1994.

[32] L. Holbeche and N. Springett, “In search of meaning at work,” Horsham, 2004 taken from S. Southwick and D. Charney, Resilience: The science of mastering life’s greatest challenges. Cambridge: Cambridge University Press, 2012.

[33] P. Bartone, “Hardiness protects against war-related stress in Army Reserve forces.,” Consulting Psychology Journal: Practice and Research, 1999.

[34] S. Maddi, “Hardiness training at Illinois bell telephone,” Health promotion evaluation, pp. 101–115, 1987.

[35] J. Creswell and W. Welch, “Affirmation of personal values buffers neuroendocrine and psychological stress responses,” Psychological Science, 2005.

[36] S. Luthar, “Resilience in development: A synthesis of research across five decades,” in Developmental psychopathology:Vol 3. Risk, disorder and adaptation, 2nd ed., D. Cicchetti and D. J. Cohen, Eds. New York: Wiley, 2006, pp. 739–795.

[37] M. Mehl, S. Vazire, S. E. Holleran, and C. S. Clark, “Eavesdropping on Happiness Well-Being Is Related to Having Less Small Talk and More Substantive Conversations,” Psychological Science, 2010.

[38] S. Brown, R. Nesse, A. D. Vinokur, and D. M. Smith, “Providing social support may be more beneficial than receiving it results from a prospective study of mortality,” Psychological Science, vol. 14, no. 4, pp. 320–327, 2003.

[39] S. Manne, S. Pape, K. Taylor, and J. Dougherty, “Spouse support, coping, and mood among individuals with cancer,” Annals of Behavioral Medicine, vol. 21, no. 2, pp. 111–121, 1999.

[40] C. J. Holahan, R. H. Moos, C. K. Holahan, and P. L. Brennan, “Social support, coping, and depressive symptoms in a late-middle-aged sample of patients reporting cardiac illness.,” Health Psychology, vol. 14, no. 2, p. 152, 1995.

[41] T. Revenson, “Social support as a double-edged sword: The relation of positive and problematic support to depression among rheumatoid arthritis patients,” Social science & medicine, vol. 33, no. 7, pp. 807–813, 1991.

[42] D. Mohr, C. Classen, and M. Barrera, “The relationship between social support, depression and treatment for depression in people with multiple sclerosis,” Psychological Medicine, vol. 34, no. 3, pp. 533–541, 2004 taken from Mckay L (2011) ‘ Resilience – Building resilient managers in humanitarian organisations: strengthening key organizational structures and personal skills that promote resilience in challenging environments’ People in Aid.

[43] A. Rozanski, J. Blumenthal, and J. Kaplan, “Impact of psychological factors on the pathogenesis of cardiovascular disease and implications for therapy,” Circulation, vol. 99, no. 16, pp. 2192–2217, 1999.

[44] J. Fawcett, Stress & Trauma Handbook: Strategies for Flourishing in Demanding Environments. World Vision International, 2003.

[45] M. Heinrichs, B. von Dawans, and G. Domes, “Oxytocin, vasopressin, and human social behaviour,” Frontiers in neuroendocrinology, vol. 30, no. 4, pp. 548–577, 2009.

[46] M. Heinrichs, T. Baumgartner, C. Kirschbaum, and U. Ehlert, “Social support and oxytocin interact to suppress cortisol and subjective responses to psychosocial stress,” Biological psychiatry, vol. 54, no. 12, pp. 1389–1398, 2003.

[47] F. Walsh, “BBC News - Sedentary lifestyle can kill,” 2012. [Online]. Available: http://www.bbc.co.uk/news/health-18880989. [Accessed: 28-Jul-2014].

[48] J. Blumenthal, “Effects of exercise training on older patients with major depression,” Archives of internal medicine, vol. 159, no. 19, pp. 2349–2356, 1999.

[49] K. Barbour, “Exercise as a treatment for depression and other psychiatric disorders: a review,” Journal of Cardiopulmonary Rehabilitation and Prevention, vol. 27, no. 6, pp. 359–367, 2007.

[50] P. Salmon, “Effects of physical exercise on anxiety, depression, and sensitivity to stress: a unifying theory,” Clinical psychology review, vol. 21, no. 1, pp. 33–61, 2001.

[51] C. Cotman and N. Berchtold, “Exercise: a behavioral intervention to enhance brain health and plasticity,” Trends in neurosciences, vol. 25, no. 6, pp. 295–301, 2002.

[52] R. Andel, T. Hughes, and M. Crowe, “Strategies to reduce the risk of cognitive decline and dementia,” vol. 1, no. 1, pp. 107–116, 2005.

[53] S. Cohen and W. Doyle, “Sleep habits and susceptibility to the common cold,” Archives of internal medicine, vol. 169, no. 1, pp. 62–67, 2009.

[54] M. Walker and R. Stickgold, “Sleep-dependent learning and memory consolidation,” Neuron, vol. 44, no. 1, pp. 121–133, 2004.

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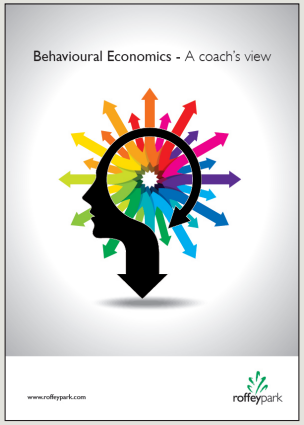

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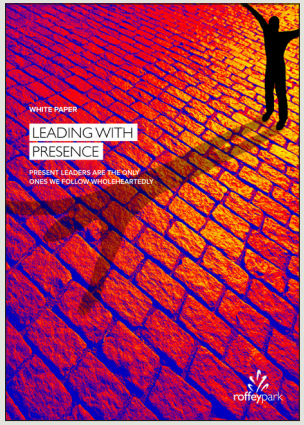

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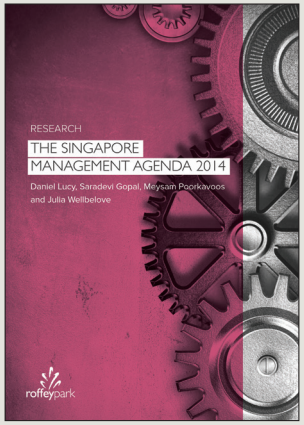

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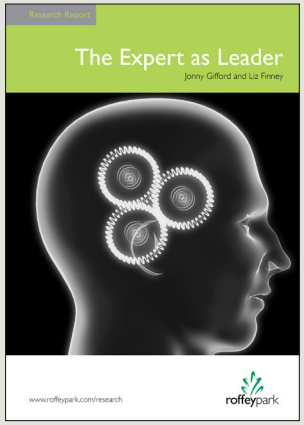

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This is the topic of resilience, the process of negotiating, managing, and adapting to significant sources of stress or trauma. Developing resilience in organisations' leadership populations is becoming increasingly relevant in a business world characterised by frequent and disruptive change.

In this research paper, we explore what is known about the topic and offer a statistically robust model of resilience based around five key, learnable, capabilities: perspective; purpose, values and strengths; emotional intelligence; connections; and managing physical energy. Through our research we have developed an online Resilience Capability Index (RCI) which managers can use to assess and help develop their own capacity for resilience. (The RCI is available on Roffey Park's website www.roffeypark.com/rci)

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