


**Leadership for Change
Programme Master Class 2**

Dr Peter Gruenewald MD: Adaptive Resilience

Thursday 1st October 2015






**Adaptive Resilience
Mindful Engagement - A
psychophysiological approach**

Handling pressure, enhancing performance and staying well: Practical techniques for effectively managing pressure and crisis


Dr Peter Gruenewald MD



Dr. Peter Gruenewald MD



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- works as and Honorary Clinical Specialist in sleep medicine at UCLH and as a General Practitioner in private practice (London)
- is founder and managing director of Adaptive Resilience Ltd.
- conducts workshops and coaching/training for individuals and organisations in developing resilience, as well as managing stress, health and performance
- is author of the book, The Quiet Heart. Putting Stress in its Place. Floris Books 2007

Today's Agenda




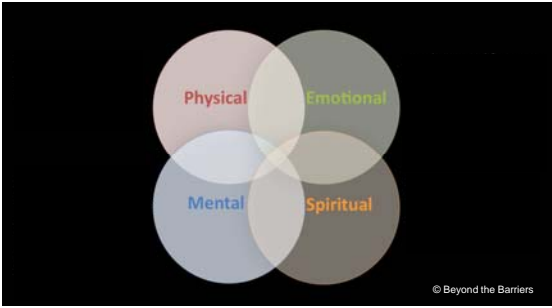
Timing	Activity
10.00 – 11.30	Session 1: What is Adaptive Resilience? • The Conductor (Adaptive Leadership) • Exercise 1: Accessing Resources • Exercise 2: The Diaries
11.30 – 11.45	Break
11.45 – 13.00	Session 2: Positive emotions, heart rate variability and Autonomic Nervous System (ANS) • The Conductor (Adaptive Leadership) • Exercise 3: Creating coherence • The Conductor (Adaptive Leadership) • Exercise 4: In Step Technique
13.00 – 13.30	Lunch
13.30 – 14.45	Session 3: The Relationship Builder • Exercise 5: Suspending Judgment
14.45 – 15.00	Session 4: The Adaptive Resilience Cycle

What is Resilience?





- coping with stress and catastrophe
- bouncing back to *homeodynamic* after disruption
- recovery from trauma
- developing "protective factors"
- developing emotional resilience, "resourcefulness" and "mental strength"
- good outcomes regardless of high-risk status


Physical, emotional, mental and spiritual resilience

© Beyond the Barriers

Our approach is based on 


- Neuroscience
 - Neuroscience of cognition, emotion and behaviour
 - Chronobiology (Heart rate variability) – health and performance
- Mindfulness
 - Living in the 'Now'. Deliberate detachment and attachment.
- Cognitive Behaviour Therapy
 - 'Problem focused' and 'action orientated'
- Positive Psychology
 - Positive emotions, resilience, happiness and success
- Motivational Psychology
 - Goal orientated behaviour, life purpose and success

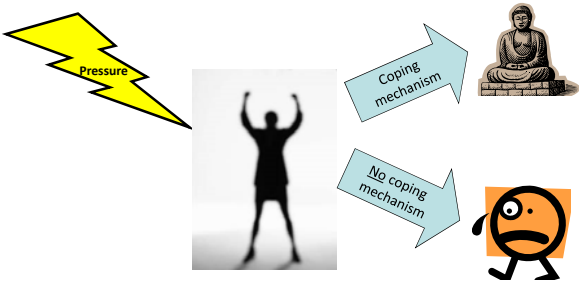
Some stress management approaches do not effectively deal with emotions 

Stress Reduction Kit

Bang
Head
Here


Directions:
1. Place kit on FIRM surface.
2. Follow directions in circle of kit.
3. Repeat step 2 as necessary, or until unconscious.
4. If unconscious, cease stress reduction activity.

The stress response 




The nature of crisis 


- A crisis may occur on a personal, organizational or societal level.
- It may be an unstable and dangerous social situation.
- The event that leads to crisis:
 - is unexpected
 - creates uncertainty
 - is seen as a threat to important goals
 - brings the need for change
- If change is not possible, the event could become a failure.

Response to crisis
'Stress makes strong and stupid' 

- Emotional and behavioural response in crisis often triggers cortical inhibition.
- This leads to:
 - reduced clarity of thinking
 - poor decision making
 - impulsiveness
 - rigidity of response
 - isolation


What does this session involve? 

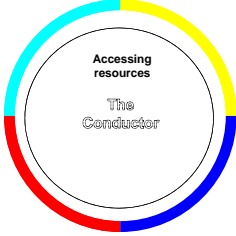
- Introducing practical techniques
- Practicing these techniques together
- Exchanging experiences
- Exploring questions

Scientific Research into Resilience 


Presenting the scientific basis of adaptive resilience training including:

- Psychology and physiology of stress and adaptive resilience
- Leading oneself and others in crisis
- Improving human relationships
- The role of positive emotions and the physiology of coherence
- Heart rate variability (HRV) and autonomic nervous system balance

The Adaptive Resilience Cycle 



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The Conductor 

- Adapts well to challenge
- Creates dispassionate understanding and overview
- Responds with physiological and emotional flexibility
- Is able to shift to positive emotional states under duress to access creative states of problem solving
- Maintains good judgement, decision making and confidence in crisis



The tool:
Accessing resources

Stressful problems you or your team may experience 

- Budget cuts and constraints
- Managing (difficult) human relationships
- Managing change
- Managing and empowering distressed staff
- Managing crisis without losing touch with the human issues
- Workload – working under time constraint
- Managing public opinion (relationship with the press and politicians)
- Dealing with wicked problems and not despairing, or becoming uncaring or cynical
- Developing and maintaining a sense of purpose

Exercise 1: Accessing resources 

- Take out paper and a pen: write down on one side of a piece of paper everything you can think and feel about a real problem, issue or concern that you are experiencing.
- Slow and deepen your breathing and focus on somebody or something you sincerely appreciate.
- Now write down on the other side of the paper, everything you now think and feel about the same problem.
- Compare what you have written on both sides. What is the difference between the two lists?
- **Contemplate about your problem and explore it, as you try to reconcile and integrate the first and second account you have created. See, where appropriate, the problems in the light of solutions and the solutions in the light of the problems.**

Exercise 1: Accessing resources  

Balcony view:

- Raising awareness through attention
- Reducing the impact of negative emotions through naming
- Creating distance, structure and clarity through writing

Ballroom dancing:

- Creating a physiology of coherence through focus on positive feeling
- Bringing into alignment brain & heart function
- Accessing creative problem solving

Balance:

- Developing a balanced view, insight, passion and confidence


Thinking in words about emotional experiences



“When you put feelings into words, you’re activating this prefrontal region and seeing a reduced response in the amygdale the same way you hit the brake when you are driving when you see an orange yellow light, when you put feelings into words, you seem to be hitting the brakes on your emotional responses.”

Matthew D. Lieberman, Naomi I. Eisenberger, Molly J. Crockett, Sabrina M. Tom, Jennifer H. Pfeifer, and Baldwin M. Way, University of California, Los Angeles, 2007:
Putting Feelings Into Words. Affect Labeling Disrupts Amygdala Activity in Response to Affective Stimuli


Scientific publications on the impact of positive emotions



Positive emotions were found to help resilient people to


- disrupt the experience of stress and to recover efficiently from daily stress
- construct psychological resources that are necessary for coping successfully with significant catastrophe.
- notice positive meanings within the problems they faced (e.g., felt grateful to be alive), after terrorism attacks.

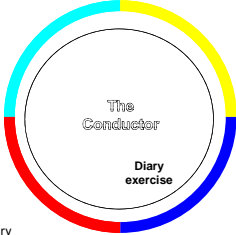
Scientific publications on the impact of positive emotions



Positive emotions


- are active elements within resilience
- are critical elements in resilience
- influence resilient people’s responses to adversity

The Adaptive Resilience Cycle 




Part 1: Review diary
Part 2: Gratitude diary
Part 3: Future action diary
Part 4: Exercise diary

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The Conductor 


Learns from the Past
Explores intentions and purpose
Prepares the future
Practices deliberately

The tool:
Diary Exercise

Exercise 2: The Diaries 


Part 1: Review Diary
Part 2: Gratitude Diary
Part 3: Future action diary
Part 4: Exercise Diary

Exercise 2: The Diaries
Part 1: Review diary



- Slow down and deepen your breathing as you experience calmness
- Write down what and how you think and feel about significant events of the day
- Focus on remembering the events in a detached manor, re-viewing them rather than re-living them (**balcony view**)
- Ask yourself how and what you felt at the time, name your feelings and write them down

Review diary: Key benefits



- Process your day's experiences effectively
- Bring into your awareness any painful or disturbing emotions, such as anger, fear and sadness
- Allow yourself to accept these emotions as part of your life
- Neutralise the negative impact of these emotions that are attached to your memories by naming them
- Learn from the events on a deeper level
- Develop equanimity and intuitive insight in how to deal with similar challenges in the future
- Prepare for more deep sleep and less REM sleep (dreams), as you will have already processed the day's events

Thinking in words about emotional experiences



“When you put feelings into words, you’re activating this prefrontal region and seeing a reduced response in the amygdale the same way you hit the brake when you are driving when you see an orange yellow light, when you put feelings into words, you seem to be hitting the brakes on your emotional responses.”

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Exercise 2: The Diaries
Part 2: Gratitude diary



- Slow down and deepen your breathing and focus for a moment on a genuine feeling of appreciation
- Write down the 5 things you feel truly grateful for **and also why you feel grateful.**
- List rather small things to avoid repetition
- Create a genuine sense of gratitude



Gratitude diary: Key benefits



- Deepen your appreciation for life
- Deepen your appreciation for yourself
- Turn negative emotions into positive emotions
- Improve low mood
- Generate enthusiasm and passion



The effect of gratitude and appreciation on happiness and success




“The participants who focused on five things they were grateful for were not only happier and more optimistic, but also more successful in achieving their goals, physically healthier, and more generous and benevolent towards others.”

Emmons, Robert; McCullough, Michael E. 2003
Counting Blessings Versus Burdens: An Experimental Investigation of Gratitude and Subjective Well-Being in Daily Life Journal of Personality and Social Psychology. Vol 84 (2), pp. 377-389




Exercise 2: The Diaries
Part 3: Future action diary




- Slow and deepen your breathing and focus for a moment on a feeling of confidence
- Write down 6 things you must do tomorrow
- Imagine for every single item for a moment what it looks and feels like to have done what you have to do
- Next day, tick off the things you have done and leave on your list for the next day the things, you did not do.
- Best time: after work

Future action diary: Key benefits



- Keep your mind focussed on the tasks at hand
- Become more efficient in transforming intentions into actions
- Bridge the gap between expectation and reality
- Establish a better boundary between work and home
- Keep your sleep free from having to think or worry about

Exercise 2: The Diaries
Part 4: Exercise Diary



Write down


- whether you practiced your exercises
- what you experienced whilst practicing
- why it may be helpful to regularly practice
- what it will feel / look like when you have practiced

Imagine yourself

- practicing the techniques tomorrow with love, joy and confidence

Exercise Diary: Key benefits 






- Learn from your experience
- Improve your practice
- Develop perseverance


 Leadership for change

Leadership for Change Programme Master Class 2

Dr Peter Gruenewald MD: Adaptive Resilience

Break



**Adaptive Resilience
Session 2: Physiology and
Psychology of Stress and Resilience**

Our approach starts with the Autonomic Nervous System (ANS)



The Autonomic Nervous System (ANS) comprises of two parts with opposite and complementary functions

- **Sympathetic system**
 - "Activation"
 - "Fight or flight"
 - Mobilising and alerting
 - Speeds up the heart
- **Parasympathetic system**
 - "Freeze and flop"
 - "Tending and befriending"
 - Relaxing and regenerating
 - Slows the heart down

Heart Rate Variability



- The speed of heart beat changes constantly
- A high Heart Rate Variability is a sign of good health and youthfulness of the organism (good adaptability)
- Heart Rate Variability reduces with age and poor health




Reduced HRV precedes




- Arrhythmias – atrial and ventricular
- Cardiac mortality
- All cause mortality (in the middle aged and the elderly)
- Accidents
- Chronic disease

In both sexes and all age groups

Heart rate variability 

HRV reduces

- with age
- poor health
- when stressed
- with physical illness
- with mental health problem

Heart rate variability implications 


Lifestyle choices

Decrease HRV:

- Smoking
- Sedentary
- Sleep deprivation
- Alcohol abuse

Increase HRV:

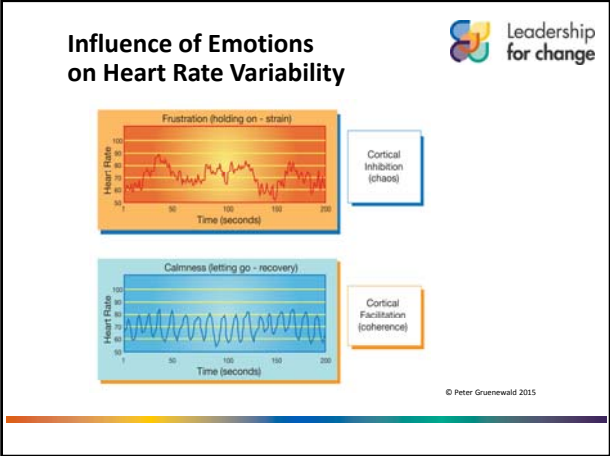
- Physical exercise
- Emotional management
- Heart rate variability training
- Good quality sleep

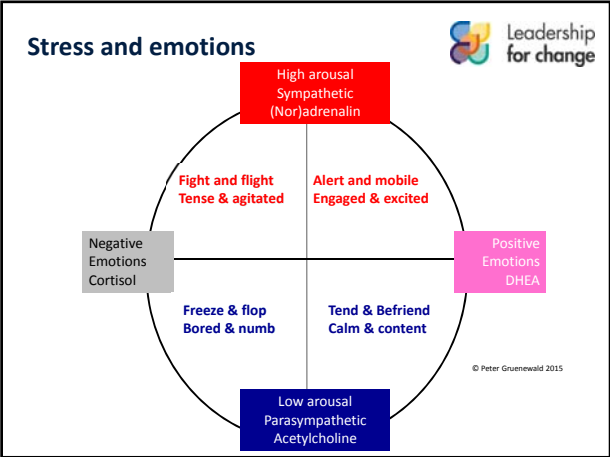
Heart rate variability 

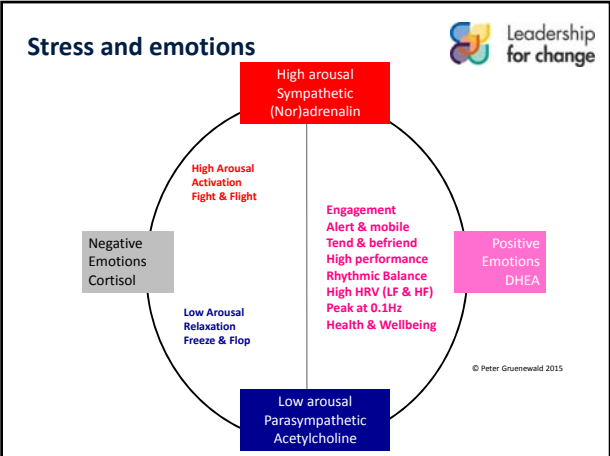
Heart rate variability informs about

- Flexibility of the organism
- Adaptability of the organism
- Physical and mental performance
- Physical and emotional health
- Risk of accidents

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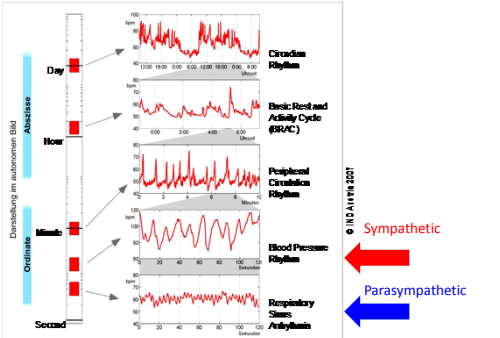


Resonant Frequency Training ('Resonance Training')



- Resonant Frequency Training is a form of Heart Rate Variability training
- Every individual has a "resonant frequency" at which heart rate variability is the greatest.
- This resonant frequency is achieved when *breathing rhythm, blood pressure rhythm and the rhythm of the autonomic nervous system are aligned.*

Rhythm of the Heart



Resonant Frequency Training ('Resonance Training')



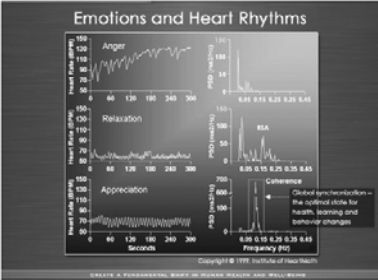
- Relaxed breathing at about **6 b/m** produces a spike of heart rate variability at about **0.1 Hz** and tends to *maximize most other measures of heart rate variability in most people.*
- The resonant frequency is most often produced by a persons in a *physically relaxed and mentally focused state*, with positive emotional tone, breathing diaphragmatically and smoothly at a rate of about **6 breaths per minute (5 seconds in and 5 seconds out).**
- The 0.1Hz peak in heart rate variability indicates an *activation and rhythmic balance of the sympathetic and parasympathetic nervous system.*

Resonant Frequency Training ('Resonance Training')



- The **0.1Hz peak in heart rate variability** is also achieved, when we experience a **positive feeling** such, as appreciation or gratitude.
- This physiological state of balance
 - facilitates **"high sustainable performance"** (*cognitive function, motivation, productivity etc.*)
 - **optimises social connectedness with other people** (*emotional regulation*)
 - **supports problem solving in challenging circumstances**
 - **improves stress tolerance**
- This 'state of coherence' can be learned by the organism and reproduced, when required.

Coherence is different from Relaxation



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How effective is HRV training?



Clinical trials have shown that HRV training techniques can help control or improve problems like

- Stress
- Anxiety
- Anger
- Depression
- Panic attacks
- Attention Deficit
- Asthma
- High blood pressure
- Irritable bowel syndrome
- Chronic fatigue syndrome

Heart Rate Variability & Emotional Regulation



- Heart rate variability (HRV) is a measure for the continuous interplay between sympathetic and parasympathetic influences on heart rate that yields information about *autonomic flexibility*.
- It thereby represents the *capacity for regulated emotional responding*.
- *Effective emotional regulation depends on being able to flexibly adjust your physiological response to a changing environment.*
- HRV reflects the degree to which our *physiology can be modulated to meet changing situational demands*.

Empirical Research on HRV




- Higher levels of resting HRV have been *associated with effective stress coping strategies and increased resilience under stress*
- *Attention control* is associated with higher HRV
- Reduced HRV is seen in many disorders with *autonomic dysregulation*, including anxiety, depression, irritable bowel syndrome, and asthma
- Reduced HRV is associated with *increased vulnerability to physical and psychological stressors and disease*

Some beneficial effects of HRV training




- Increased mental performance (focus, concentration, memory)
- Improved stress tolerance
- Reduced levels of anxiety
- Reduced impulsivity
- Improvement of low mood
- Better managing of anger
- Improved social integration
- Improvement of fatigue

HRV, resilience and performance 

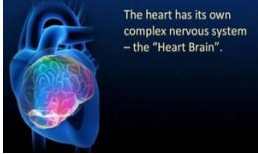
Greater heart rate variability leads to


- Better judgment
- Better decision making
- Better performance

The Heart- Brain- Connection 

The Heart Brain

The heart has its own complex nervous system – the "Heart Brain".





"The heart's more than a pump — it actually sends messages to the brain"
 Dr. Rollin McCraty
 of the Institute of HeartMath

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The Emwave® Desktop Pro 





From HeartMath www.relax-uk.com

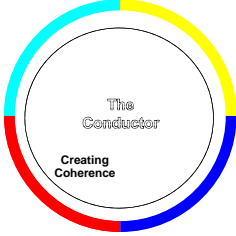


Let's see how this all works in you 


VOLUNTEER PLEASE




The Adaptive Resilience Cycle 




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The Conductor 


- Adapts well to challenge and change
- Is physiological and emotionally resilient
- Responds with physiological and emotional flexibility
- Shows a healthy heart rate variability (amplitude & coherence)
- Is able to access positive emotional states under duress to sustain good health and performance


The tool:
Creating Coherence



Exercise 3: Creating coherence (Overview) 

- Breathe slowly and deeply
- Activate positive feelings (Emotions)
- Focus on your heart




Exercise 3A: Creating coherence 

Constructive feelings (Emotions):
 Create and sustain constructive feelings:
 Gratitude, appreciation or joy (am)
 Calmness (pm)

Breathing (Physiology):
 Breathe slowly: inhale 5 seconds in and exhale 5 seconds
 Breathe deeply: whole chest and back (approx. 80% of lung capacity)
 Breathe starting from the diaphragm

Focus on your heart:
 Focus on the area below the centre of your chest bone
 Focus on the space surrounding you
 Focus on the periphery as you inhale and on your heart, when you exhale. Create a movement between centre and periphery



Resonance Trainer 

 **Adaptive Resilience**

Resonance Training 1.0


Audio Training Programme

Music Paced Breath Training
 Bilateral Hemispheric Brain Stimulation



Dr. Peter Gruenewald, MD
 Dr. Nigel Agger, BDS




Resonance Training and use of the breath pacer 

The Resonance Training (and the breath pacer) can be used in the following situations:


- Before, during and after challenging situations
- When you feel anxious, angry, stressed or low in mood
- On waking to help set the tone for the day
- Before going to sleep (to help wind down and let go)
- Before sport performance (to reduce performance anxiety)

It is encouraged to do the training once a day or more, if possible
 After a while the resonance training can be done without the breath trainer: Focus on slow and deep breathing and positive emotion to replace sounds


The Conductor 

- Remains alert to changing circumstances
- Seeks feedback
- Reviews performance and makes sense of it
- Ensures the leadership response matches the need

The tool:
 In- Step- Technique

Working under time constraint 


- Importance of breaks for productivity and performance
- 3- 5 minutes break every 1 ½ hours
- Strengthen positive emotional states
 - Creating coherence
 - In-step technique

Deliberate Practice 

People believe that because expert performance is qualitatively different from normal performance the expert performer must be endowed with characteristics qualitatively different from those of normal adults.


This view has discouraged scientists from systematically examining expert performers and accounting for their performance in terms of the laws and principles of general psychology.

Ericsson, K. Anders; Krampe, Ralf T.; Tesch-Römer, Clemens Psychological Review, Vol 100(3), Jul 1993, 363-406.
The role of deliberate practice in the acquisition of expert performance.

Deliberate Practice 

"The differences between expert performers and normal adults reflect a life-long period of deliberate effort to improve performance in a specific domain."

"Experts are experts at maintaining high-levels of practice and improving performance."


Deliberate Practice 


1. You must be motivated to attend to the task and exert effort to improve your performance.
2. The design of the task should take into account your pre-existing knowledge so that the task can be correctly understood after a brief period of instruction.
3. *You should receive immediate informative feedback and knowledge of results of your performance.*
4. *You should repeatedly perform the same or similar tasks.*

Deliberate Practice 

"The difference between the beginner and the master is that the master practices a whole lot more."

Yehudi Menuhin




Exercise 10: In-step technique (Overview) 

Moving from one activity to the next is often more effectively managed, if we process the previous experience first. It also allows us to critically reflect and process our past experiences (**Step out**), and mentally rehearse and prepare a better response to similar events in the future (**Step in**).

To optimise managing a high workload and/or frequent transitions, try this:

- Step out**
Calm, observe, ask
- Step-in**
Appreciate, explore, imagine


Select a past event you would like to work on

Exercise 10: Step out (Part 1) 

Create **calm** coherence.
(Breathe slowly and deeply with focus on calmness. Maintain this breathing throughout the whole exercise.)

Observe and describe the situation and your emotions.
(Describe the experience and name your emotions.)


Ask yourself how best to relate to this event.
(Is there anything I can learn from this situation?)

Exercise 10: Step out (Part 2) 

Appreciate the situation as one you will be able to learn from.
(If the event was traumatic, imagine how in future you may look back and identify, what you may have gained from this experience.)

Explore how you would like to relate to a similar event in the future.
(Use your "realistic imagination" to explore your options.)


Imagine with confidence and determination, how you will deal with a similar event in the future.
(Experience yourself inside your body, and engage your body senses.)

Exercise 10: Step out (Part 3) 

Appreciate the next activity as one you will excel in.


Explore how you would like to deal with the next event.
(Use "realistic imagination and/or self-talk" to explore your options.)


Imagine with confidence and determination, how you will deal with this upcoming event.
(Experience yourself inside your body, and engage your body senses.)

Exercise 10: In-step technique (Overview) 


Some Benefits:

- Learn from past experiences
- Find time for reflection
- Maintain the overview
- Change patterns of response
- Improve your performance and effectively recover from strain
- Meet similar challenging situations with flexibility, equanimity, creativity and self-determination

The Carnegie Hall Effect 




Concert venue in Midtown Manhattan,
New York City



Jasha Heifetz, 1901 -1987
One of the most influential violinists






Rumor is that a pedestrian on Fifty-seventh Street, Manhattan,
stopped Jasha Heifetz and enquired:
"Could you tell me how to get to Carnegie Hall?"
"Yes," said Heifetz. "Practice!"




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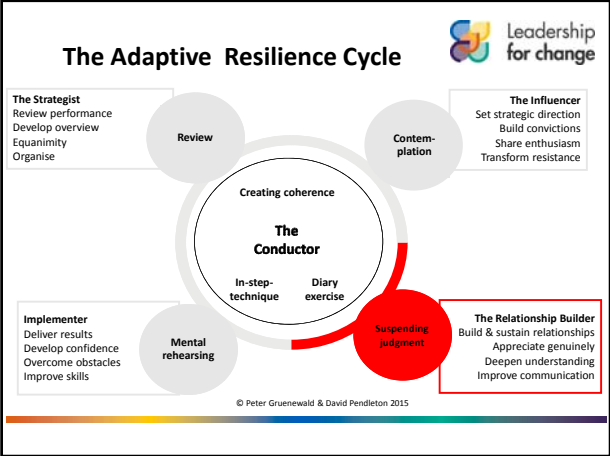
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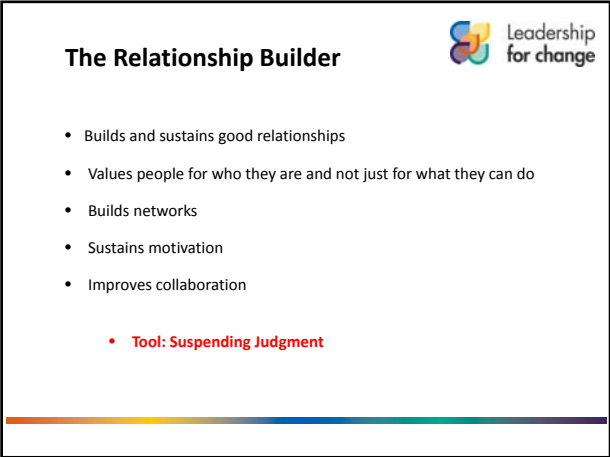
Lunch

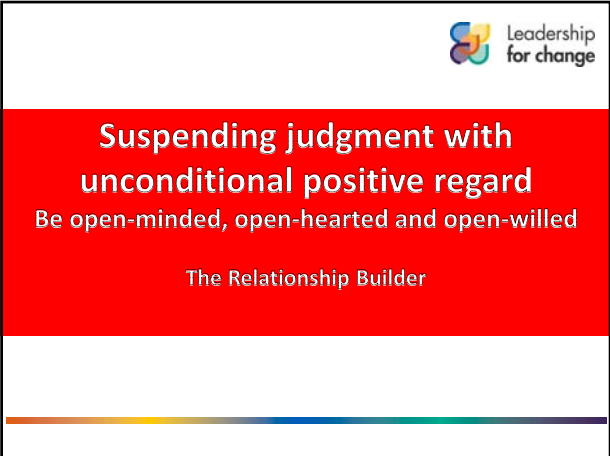









**Adaptive Resilience
Session 3: The Adaptive Resilience
Cycle**









Exercise 5: Suspending judgement with unconditional positive regard 

- Create inner coherence (inner calmness and appreciation)
- Focus on the other person: their voice, pitch, rhythm of speech, breathing, expression and gestures
- Recognise the other person's feelings, needs and intentions
- Avoid any immediate judgement or emotional response
- Focus for a short while on your thoughts and feelings about the person
- Whilst responding (feedback), re-focus on the person


Exercise 5: Suspending judgement with unconditional positive regard 

- Assemble in groups of 3
- Silence - Calm and appreciating coherence (1 minute)
- One person talks, the others listen supportively (5 minutes)
- Silence – Reverberation and processing (1 minute)
- Feedback – the listeners share their experience (7 minutes)

- **Repeat exercise with changed talker and listeners (2x)**
- **Total duration: up to 60 minutes**


Exercise 5: Suspending judgement with unconditional positive regard 

- Suspend judgment
- Recognise strength, risks and obstacles
- Find time for joint reflection and vision building
- Inspire and enabling people to change/action
- Build trust
- Build teams


Adaptive Resilience 

is the


- capacity to remain productive and
- true to core purpose and identity
- whilst absorbing disturbance and
- adapting with integrity
- in response to changing circumstances.

Adaptive Resilience 


- the positive capacity to cope with stress and catastrophe
- the ability to bounce back to homeostasis after a disruption
- developing "protective factors"
- developing emotional resilience, "resourcefulness" and "mental toughness"

Resilience shows 

- good outcomes regardless of high-risk status
- constant competence under stress
- recovery from trauma


How crisis and change affect health and performance 

- Psychology and Physiology of Stress
- Cortical inhibition
 - Poor judgment and decision making, isolation, inflexibility etc.
- Hippocampus inhibition (Cortisol effect)
 - Impairment of memory function
- The sympathetic and parasympathetic nervous system
 - Fight and flight; tend and befriend; freeze
- The hormonal axis (Cortisol : DHEA, Oxytocin)
 - Negative emotions breed poor resilience and poor performance
- Heart rate variability
 - Health, resilience and performance

Adaptive leadership requires adaptive physiology 

The Psychology and Physiology of Adaptive Resilience

- Shifting from cortical inhibition to cortical facilitation
- Balancing the autonomic nervous system
- Reducing Cortisol and Increasing DHEA
- Enhancing Heart Rate Variability
- Maintaining adaptability and high performance
- Shifting to and sustaining "positive emotions"
- Building and sustaining effective working relationships

Role modeling adaptive resilience? 

"Each of us must be the change we want to see in the world."


Mahatma Gandhi

Leadership Competency Models 

Hogan and Warrenfeltz (2003) propose that all existing leadership competency models can be organised in terms of 4 broad categories as follows:


1. Intrapersonal skills: self-awareness & self-control, emotional maturity, integrity
2. Interpersonal skills: social skills, empathy, and relationship development
3. Business skills: ability to plan, organise, monitor, and use resources
4. Leadership skills: ability to build and maintain a team, lead through others

This list reflects a development hierarchy, beginning with intrapersonal skills and ending with leadership skills.
E.g.: maintaining positive relationships depends on self-control, effective leadership depends on knowing something about the business etc.

Increasing Versatility & Impact through Balance 

“Leadership consists of opposing strengths, and most leaders have a natural tendency to overdevelop one at the expense of its counterpart. The resulting imbalance diminishes their effectiveness. But leaders who work to guard against such lopsidedness can increase their versatility and their impact.”

Robert E. Kaplan and Robert B. Kaiser
Developing Versatile Leadership
MIT Sloan Management review Summer 2003 Vol. 44 NO. 4






Adaptive Resilience


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Literature




- **Relationship between heart rate variability and cognitive function during threat of shock.** *Anxiety, Stress & Coping*, 9, 1-12. Studies by Fredrickson et al., 2003; Tugade et al., 2004; Ong et al., 2006; Bonanno et al., 2007; Hansen, A., Johnsen, B., & Thayer, J. (2008).
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