Welcome to the May 2015 edition of Neuropsychotherapy in Australia.

Resilience

In this edition we focus on an important aspect of mental wellness – resilience. The neurobiological markers of resilience have not been clearly defined despite the significant emphasis on this concept in mental wellness. Most systems of psychopathology indicate the prevalence of resilience as protective marker against mental illness and that resilience has an inverse relation to mental illness. The article explores the link between resilience and neural proliferation, mental wellness and proposes some strategies from neural perspective to enhance resilience.

Neuroscience workshops

We continue to run workshops throughout Australia as well as New Zealand. The new two day workshop on the Adolescent brain commences soon. The workshop will run in Sydney, Melbourne, Brisbane and Dunedin (New Zealand) – see details on our website as well as in this edition.

International Conferences

A keynote presentation was delivered at the Grampians mental Health Conference (Victoria) on Trauma and the Brain – A Neuropsychotherapeutic perspective (April 2015). It was followed by a 2 day workshop on The Social Brain and the neuroscience of Relationships.

In mid May a State-of-the-art lecture will be presented at the International Asian Cognitive Behaviour Therapy Conference (Nanjing, China).

I am very excited to introduce a new book on wellness, healthy lifestyles and good nutrition – Think Lean Method – the whole brain guide to get lean for life written by my son Jurie, Rossouw. Jurie has done a lot of research into the field of nutrition and linked this closely with neuroscience.

Enjoy the read!

Pieter Rossouw - Editor
Resilience is defined as an individual’s capacity to effectively respond and adapt to stress and adversity (APA 2014). Stress and adversity can present in a multitude of situations on all levels – biological, emotional, psychological, social or spiritual.

Traditionally resilience has been viewed as a capacity that is learned through behaviour, developed over time (Boyden & Mann 2005) and is linked to a cultural adaptation process (Dawes & Donald 2000; Castro & Murray 2010), and risk factors have been identified that compromise resilience (Boyden & Mann 2005). Resilience is closely aligned with emotional wellness (Ungar 2004) and a capacity to endure and achieve long term goals (Duckworth et.al 2007).

Until recently very few research studies have been conducted focusing on the biological markers of resilience – especially in the domain (context?) of the neural basis of emotional styles and resilience. One of the pioneers in this field is Richard Davidson. His research led to the development of various dimensions of emotional style linked to neurobiological markers that assist with a better understanding of the neuroscience of resilience.
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Emotional style and resilience

Davidson identifies six dimensions of emotional style:

• The Resilience Style:
  On a day-to-day experiential level this refers to the capacity to manage setbacks or muster the ability to soldier on (without?) surrender. People high on this dimension are fast to recover and those low on this emotional style are easily crippled by adversity.

• The Outlook Style:
  This style refers to the capacity to maintain high levels of energy and engagement when things are not going smoothly; the capacity to remain positive (high outlook style) or (versus?) become cynical/pessimistic (low outlook style) when things are not going all that well.

• The Social Intuition Style
  This style refers to the capacity to effectively and accurately “read” people’s body language, emotional tone and needs (high social intuition) or the inability to be attuned to the social environment (low intuition style).

• The Self-Awareness Style
  This style refers to the ability to be attuned to the inner messages of the system – emotional and physiological. It refers to the insight to understand the palpitations, excessive sweating, the “knot” in the stomach and the feelings of jealousy or being threatened.

• The Sensitivity to Context Style
  Sensitivity to context refers to the ability to discriminate between various social contexts – sharing jokes with a few close friends and saying something funny in front of an academic audience are different contexts that require different styles. This style reflects understanding the social “norm” – being “tuned in” (high sensitivity to context style) or “tuned out” (low sensitivity to context style).

• The Attention Style
  The final emotional style relates to the ability to screen out emotional distractions and stay focused. This ability enhances the capacity to stay “in the moment’ rather than being distracted by past events (which often leads to experiences of failure and depression) or future concerns about what may happen (which often leads to feelings of anxiety). High attention style results in increased energy and the effective management of the challenges of life, while low attention style enhances the risk of pathology (Davidson and Begely 2012)

Although the word ‘resilience” is directly linked to one particular emotional style, it is the combination of these emotional styles that fosters the capacity to “respond and adapt to stress and adversity”. The implication is that resilience is a broader concept than “resilience style” which is one (albeit important) aspect of resilience.

Resilience from constructionist perspective

Michael Ungar provides a view on resilience from constructionist perspective informed by Systems Theory (Ungar 2004). He proposed that the theory that there is a predictable relationship between risks and protective factors (circular causality) is inadequate in accounting for resilience. He suggested that instead of looking at resilience as an objective fact it may be more helpful to look at resilience phenomenologically. He describes resilience as “the outcome of negotiations between individuals and their environments to maintain a self-definition as healthy” (Ungar 2004). He indicates how young people, labeled as delinquent or disordered, often maintain surprisingly good mental health (Ungar 2002). He then proceeds to describe resilience in terms of locus of control, and valid approach patterns as key indicators for wellness.

Although this approach provides significant insights into the phenomenon of resilience, it falls short in explaining the triggers, onset and maintenance of this concept.

The neuroscience of resilience

It is well demonstrated in research that the environment changes the neural networks (Kandel 1998; Kandel & Schwartz 2013). Neural networks are moldable and not fixed. The principle of neural plasticity implies that neural connections have the capacity to change the patterns of firing. This happens when we are exposed to various environments (day to day tasks, enriched environments or compromised environments). The implications of these principles are significant when considering both the pathophysiology and neurogenesis of resilience.

The primitive (young) brain develops early neural
connections (synaptogenesis). These connections are directed due to external stimuli linked to primitive needs (safety and survival) and basic needs. When the primitive needs are well met, the need to activate the survival (stress) response diminishes and becomes less prominent. This allows for more refined/sophisticated systems to activate (higher order neural connections towards the frontal cortex). This enables the development of the ability to manage events more effectively. The prefrontal cortex (left and right) is particularly designed to manage life – decision making, reading facial expressions, managing conflict and engaging socially. These capacities are vital for the thriving response. Threatening and compromised environments (especially in early life) over-activate the survival response. This does not only indicate and increase stress and chemical release (adrenalin/epinephrine, noradrenalin/nor-epinephrine, corticotrophin releasing factor, corticotrophin hormone, and cortisol) but also facilitates stronger neural activation patterns (wiring) resulting in an overanxious brain (Le Doux 2005). These strongly wired neural networks are the result of over active amygdala responses and ongoing firing of survival patterns (compromised environments that result in a protective response). This compromises the networking capacity of the prefrontal cortex – the center for social integration and as a result – the emotional styles.

The role, function and development of the amygdala has been identified in research as a key component in the development of resilience.

The role, function and development of the amygdala has been identified in research as a key component in the development of resilience. Early life experiences of distress seem to be recorded by the amygdala as an early warning system in order to act as protection for future risks. This means that experiences of pain and displeasure are “recorded” as early warning signals by the amygdala. This results in stronger connectivity and activation of the stress response – the hypothalamus-pituitary-adrenal (HPA) system (Le Doux 2005).

Regulation of this stress response activation pattern relies on activity in the hippocampus. This structure is responsible for early memory processing and activation of prefrontal cortical areas to enhance long term memory processing. Effective hippocampal activation inhibits the stress response and enhances “context” by linking past memories to present experiences, ensuring more effective management of stressors. In a nutshell – the hippocampus seems to be a powerhouse to foster resilience. A study conducted in Cambridge, with survivors of a traumatic disaster (the collapse of a subway in downtown Seoul), demonstrated that hippocampal strength (activation of the hippocampus) is a clear protective factor in managing trauma, and the absence of hippocampal activity increased the prevalence of posttraumatic stress disorder among the victims of trauma (Benoit & Anderson 2012; Rossouw 2013). The study found the stronger the connection between the hippocampus and the prefrontal cortex (up-regulated), the more the activation of the stress response is controlled (down-regulated) (Benoit & Anderson 2012).

The role of primary and basic needs to maximize wellness has been clearly described by neuroscientist Klaus Grawe (Grawe 2007). He identified the links between these basic needs and the neurobiological markers of the needs. He also underlined important neurobiological principles to understand the development of wellness as well as the maintenance of psychopathology – the consistency principle. This principle is based on the Hebbian principle of neural activation (that a particular pattern of arousal is more likely to activate again when the neuron fires, rather than shifting the pattern of neural firing into a new direction) (reference). Further Grawe underlined the implication of the findings of neurologist Paul McLean, that the brain develops from the bottom to the top and the inside out (MacLean 1990), and demonstrated the implications of this process for the development of the neural systems as well as implications for treatment (a bottom up approach of treatment).

The work of Grawe was refined in later research and a revised consistency model has been proposed (fig 1) (Rossouw 2014). This model identifies a primary need – the need for safety and describes the neural underpinnings of this need in line with the development of the primitive brainstem and basic emotional markers (the limbic system). Resilience is clearly linked to the strength of hippocampal activation to generate, activate and maintain effec-
tive “whole-brain” neural patterns between the limbic regions and the prefrontal cortical regions. Hippocampal capacity is linked with the capacity to maintain patterns of approach (the essence of wellness) in comparison with activation of the stress response that lead to protective patterns – patterns of avoidance.

Davidson’s research indicates that well developed emotional styles enhance capacity to manage distress and increase wellness (Davidson & Begely 2012). This is in line with the findings of (Cambridge study) and the integrated theory of Neuropsychotherapy (Rossouw 2014) that points towards hippocampal strength as the key modulator of resilience. The flipside has also clearly been demonstrated in research. Trauma overexcites the HPA axis resulting in (among other key neurochemicals) an overproduction of cortisol. Over supply of cortisol has adverse effects on hippocampal strength (glial activation as well as neural connectivity) and causes apoptosis/hippocampal atrophy (Reference).

The implications are clear – resilience is closely aligned with whole brain activation and compromised with stress related (small brain) activation – activation of the HPA axis. Maximizing hippocampal wellness is directly linked to enhancing resilience. Key aspects to maximize hippocampal wellness are:

- **Quality sleep**
  It has been well established that sleep is a vital ingredient of mental (and physical) wellness (reference). The hippocampus is also directly impacted by sleep. During rapid eye movement (REM) phases of sleep the hippocampus discharges information to the prefrontal cortex (PFC) for long term processing. This keeps the hippocampus plastic and enhances neural connectivity to the PFC. During deep sleep the hippocampus also replenishes its production of brain derived neurotropic factor (BDNF) a neurohormone to enhance neural production. This process is vital for neural capacity/wellness and resilience (Staba 2002).

- **Exercise**
  The benefits of regular exercise to maximize neural wellness have been well researched and identified (studies). Exercise enhances neural proliferation, reduces cortisol levels and increases hippocampal wellness (DeAngelis 2002). It has an inverse effect on ageing, a positive effect on prefrontal cortical functioning and cognitive capacity, and is a significant marker in enhancing resilience (Chiang & Rossouw 2014).
Nutrition

The effect of unhelpful chemicals on neural function has been indicated. On the flip side the benefits of healthy eating patterns are significant in enhancing neural wellness (Rossouw 2015).

Strategies enhance resilience

The essential need for safety forms the neurophysiological basis to facilitate resilience. A physically and emotionally safe, enriched environment forms the basis on which to down-regulate stress activation, and enhances neural proliferation towards the prefrontal cortical regions. This results in activation patterns of approach that foster greater resilience to navigate the challenges of day to day experiences (Allison & Rossouw 2013).

When resilience has been compromised (e.g. by the violation of basic needs) then a process that facilitates change (uncontrollable incongruence) is indicated, and in order to facilitate new patterns of approach is inhibited – the activation of patterns of survival (the avoidance response).

Examples of case studies that facilitate greater resilience are well demonstrated in the work of Robinson (2014), Haynes (2014), Rendall (2014), Allison (2014) and Stevens (2014).

Literature


Think Lean Method: The whole-brain guide to get lean for life
by Jurie G. Rossouw, 2015 (242 pages)

Why do so many diets fail to keep the weight off? Truth is, no matter how good a diet is, if you don’t have a healthy brain and a resilient mindset, you will not be able to stick to it.

Juri Rossouw has spent nearly a decade as a resilience expert. While struggling with his own health and weight, he uncovered the critical relevance of a resilient mindset to be able to permanently keep weight off. Through a keen interest in science, he has integrated proven concepts from nutrition, neuroscience, psychology and the growing field of neuropsychotherapy to create the ultimate method to stay lean for life.

The result is the Think Lean Method - a unique and groundbreaking combination of healthy eating, brain health and mindset modification to give you techniques for simple and sustainable weight management. It provides an in-depth guide to building personal resilience specifically designed to help you reach your body and health goals.

Think Lean Method takes complex concepts and simplifies them into a practical plan that includes:

1. A no-nonsense combination of research, evidence and analysis that reveals the science of optimal nutrition for weight loss and brain health. Great for both beginners and advanced readers who want to learn more.

2. A new food pyramid that you can tailor to your lifestyle with complete guidelines on what to eat and what to avoid for lasting success. This unique food pyramid accelerates weight loss through thermogenesis, as well as taking advantage of the hormones and peptides in your brain that make you feel full faster and for longer.

3. A guide to boosting brain health for both short term benefits as well as long term neuroprotection to defend against Alzheimer’s, cognitive decline and depression. Learn about critical areas that impact your relationship with food, and how to quickly improve them.

4. An in-depth guide to help you build useful beliefs about food and develop a resilient mindset so that you stay consistent with healthy eating. Here Rossouw uses his own personal transformation and expertise in resilience to provide a revolutionary guide that shows you exactly how to Think Lean and get healthy, lean and confident for life.

5. A step-by-step plan to help you implement the method including meal plans, shopping lists and a tracking sheet to map your progress towards your goals.

6. Simple healthy recipes for breakfast, mains, side dishes, snacks and sauces. You’ll be enjoying large and filling meals without having to count calories!

For more information go to
https://www.thinkleanmethod.com
Recent findings in Neuroscience demonstrated the unique role of谈话 therapies as enriched environment to facilitate changes in the brain. Neuropsychotherapy is the “language” used in the interaction between the clinician and the client to guide the client in the process of restructuring the brain towards higher levels of functioning and well-being. It uses information from neurosciences to assist clients suffering from a wide range of biological, psychological and social challenges to apply strategies to down regulate unhelpful neural stress responses and up regulate neural activation towards neural change. Understanding the neurophysiology of these disorders and activation patterns of neural pathways as well as discussing practical applications, assist clinicians greatly to apply more effective strategies to treat depression, anxiety and trauma.

The Neuropsychotherapist, Journal Psychology and Clinical Psychiatry and International Journal for Neuropsychotherapy. He also teaches at the University of Queensland in the School of Psychology and the School of Social Work and Human Services. Currently he is involved in full time teaching and research in the fields of neurobiology and neuropsychotherapy as well as clinical training for clinicians, psychologists and general practitioners.

Pieter specialises in Neuropsychotherapy and is an expert in anxiety and mood disorders. He has published 7 Scientific Books and 60 scientific articles. He has been involved in research in extensive clinical trials and presented research papers at 50 International Conferences worldwide.

Pieter is a member of the Global Association for Interpersonal Neurobiology, the International Association for Family Therapy and the Professional Association for Drug and Alcohol Workers, the Australasian Cognitive Neuroscience Society and the Board of the Neuropsychotherapist with fellow researchers Allan Shore, Louis Cozolino, Todd Feinberg and Georg Northoff. He is the director of the Institute for Neuropsychotherapy and the chief editor of the International Journal for Neuropsychotherapy and on the editorial board of The Neuropsychologist, Journal Psychology and Clinical Psychiatry and Journal of Psychiatry.

Workshops

The Adolescent Brain - Utilizing Neurobiological Information to Enhance Mental Health and Learning. Continuing Professional Development Hours – 12 hours specialised training
- Brisbane 27 & 28 August 2015
- Sydney 10 & 11 Sept 2015
- Melbourne 16 & 17 Oct 2015
- Perth 23 & 24 November 2015

The Brain & Anxiety: Neurobiological information as Psychotherapeutic Tool. Continuing Professional Development Hours – 12 hours specialised training
- Sydney 30 April & 1 May 2015

The Neuroscience of Depression: New opportunities for Effective Treatment. Continuing Professional Development Hours – 12 hours specialised training
- Melbourne 31 Jul & 1 Aug 2015

The Developing Brain & the Neuroscience of Memory and Trauma. Continuing Professional Development Hours – 12 hours specialised training
- Melbourne 23 & 24 April 2015
- Brisbane 28 & 29 May 2015
- Perth 23 & 24 November 2015

The Social Brain & the Neuroscience of Relationships. Continuing Professional Development Hours – 12 hours specialised training
- Sydney 20 November 2015
- Melbourne 5 December 2015

The Ageing Brain & Neuropsychotherapy. Continuing Professional Development Hours – 6 hours specialised training
- Sydney 20 November 2015
- Melbourne 5 December 2015

Master Class – Applied Strategies for the Treatment of Anxiety. Continuing Professional Development Hours – 6 hours specialised training
- Brisbane 27 November 2015

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About the Presenter

DR PIETER J. ROSSOUW
MAPS, MCClin., QCA.

Pieter is the Director of the Mediros Unit for Neuropsychotherapy – a company that provides training in Neurobiology and Neuropsychotherapy. He also teaches at the University of Queensland in the School of Psychology and the School of Social Work and Human Services. Currently he is involved in full time teaching and research in the fields of neurobiology and neuropsychotherapy as well as clinical training for clinicians, psychologists and general practitioners.

Pieter is a member of the Australian Psychological Society and the APS College of Clinical Psychologists. Pieter was a Professor in Clinical Psychology in South Africa and also taught at Universities in Canada and Holland. He also spearheaded a Psycho-Therapeutic Assistance Program to support people being exposed to trauma. He provided Mental Health training for GPs for the Royal Australian College of General Practitioners. In Sydney (1999 - 2010) he worked as Senior Clinical Psychologist - Department of Health and he was the Clinical Director of both St John of God Psychiatric Hospitals (Burwood and Richmond).

Pieter specialises in Neuropsychotherapy and is an expert in anxiety and mood disorders. He has published 7 Scientific Books and 60 scientific articles. He has been involved in research in extensive clinical trials and presented research papers at 50 International Conferences worldwide. Pieter’s latest book – Neuropsychotherapy. Theoretical underpinnings and clinical applications, was published in November 2014. He is passionate about teaching – and was the recipient of The University of Queensland Faculty of Behavioural Sciences prestigious award for Excellence in Teaching; He provides global leadership in counselling and is invited on regular basis as keynote speaker at leading international conferences.

He is a member of the Global Association for Interpersonal Neurobiology Studies, the International Society for Traumatic Stress Studies, the International Association for Family Therapy and the Professional Association for Drug and Alcohol Workers, the Australasian Cognitive Neuroscience Society and the Board of the Neuropsychotherapist with fellow researchers Allan Shore, Louis Cozolino, Todd Feinberg and Georg Northhoff. He is the director of the Institute for Neuropsychotherapy and the chief editor of the International Journal for Neuropsychotherapy and on the editorial board of The Neuropsychologist, Journal Psychology and Clinical Psychiatry and Journal of Psychiatry.
07 and 08 May 2015 – **AUCKLAND** - New Zealand  
*The Neuroscience of Memory and Trauma: Implication for Effective Skills Based Interventions*  
Dr Pieter J. Rossouw  
Contact: - Kate Wellington – kate@compass.ac.nz – Ph: + 64 6 759 1647

22-23 May 2015 – **MELBOURNE** – Australia  
*The Social Brain and the Neuroscience of Relationships*  
Dr Pieter J. Rossouw  
Contact: - Nigel Denning – nigel@integrativepsychology.net.au – Ph.: 03 9663 0355

04 and 05 June 2015 – **BRISBANE** – Australia  
*Neuroscience, the Brain and Gestalt – Neuroscience and the Psychotherapist*  
Dr Pieter J. Rossouw  
Contact: - Amanda Ross – contact@gestalttherapybrisbane.qld.edu.au – Ph: 07 3844 4204

12 June 2015 – **AUCKLAND** – New Zealand  
*The Neuroscience of Ageing – Maximizing and Managing Challenges in the Ageing Brain – A Neuro-psychotherapeutic Perspective*  
Dr Pieter J. Rossouw  
Contact: - Dionne Taylor – Dionne.Taylor@cmdhb.org.nz – Ph.: + 64 9 270 9797 xtn 2816

19 and 20 June 2015 – **NEWCASTLE** – Australia  
*The Adolescent Brain – Utilising Neurobiological Information to enhance mental health and learning*  
Dr Pieter J. Rossouw  
Contact: - Liz Newton – zhuchi@zhuchi.com.au – Ph.: 0403 105 781

17 July 2015 – **BRISBANE** - Australia  
*The Anxious Brain*  
Dr Pieter J. Rossouw  
Contact – Ross Barnes – ross@hypar.com.au – Ph.: 0425 290 223

20 and 21 July 2015 – **AUCKLAND** – New Zealand  
*The Developing Brain and the Neuroscience of Memory and Trauma*  
Dr Pieter J. Rossouw  
Contact – Jo Clarkson – stressbox@actrix.co.nz – Ph.: + 64 021 535 460

23 and 24 July 2015 – **QUEENSTOWN** – New Zealand  
*The Developing Brain and the Neuroscience of Memory and Trauma*  
Dr Pieter J. Rossouw  
Contact – Jo Clarkson – stressbox@actrix.co.nz – Ph.: + 64 021 535 460

03 and 04 September 2015 – **DUNEDIN** – New Zealand  
*The Adolescent Brain – Utilising Neurobiological Information to enhance mental health and learning*  
Dr Pieter J. Rossouw  
Contact: - Sallie Dawa – sallie.dawa@psychologyassociates.co.nz – Ph.: +64 3 477 7120

07 November 2015 – **CAIRNS** – Australia  
*The Brain and Persistent Pain*  
Dr Pieter J. Rossouw  
Contact: - Simone Fischer – simone.fischer@rocketmail.com – Ph.: 0412 470 735

12 and 13 November 2015 – **BATHURST** – Australia  
*The Adolescent Brain – Utilising Neurobiological Information to enhance mental health and learning*  
Dr Pieter J. Rossouw  
Contact: - Melinda Tabone – melinda@centacarebathurst.com.au – Ph.: 02 6331 8944
### 2015 WORKSHOP SCHEDULE

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<th>Workshop Title</th>
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<td><strong>The Brain &amp; Anxiety: Neurobiological information as Psychotherapeutic Tool</strong></td>
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268 pages 2013  Dr C Henson and Dr PJ Rossouw

☐ Neuropsychotherapy  5 5 . 0 0  
Theoretical Underpinnings and Clinical Applications  
457 pages October 2014  Dr PJ Rossouw

☐ Think Lean Method  5 0 . 0 0  
The whole-brain guide to get lean for life  
242 pages 2015  Jurie G. Rossouw

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The neuropsychotherapy institute learning platform has been created for psychotherapists, psychologists, and other mental health professionals, to educate them in the new paradigm of neuropsychotherapy for more effective clinical practice.

Neuropsychotherapy is a multidisciplinary perspective on mental well-being that looks to neuroscience and other related fields of human biology and psychology to enhance the clinical practice of talking therapies. The Neuropsychotherapy Institute will provide you with a sound foundational understanding of the neurobiology of mental life and how that knowledge can inform psychotherapy and increase the effectiveness of your practice. The Institute offers courses on a Continuing Education or Professional Development credit basis* as each unit keeps you up-to-date with the latest science and practice of psychotherapy.
THE NEUROPSYCHOTHERAPIST
The big picture for psychotherapy

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