NEUROPSYCHOTHERAPY IN CLINICAL PRACTICE:

• Meaningful Networks of Pain – A Case Study
• A Case for Neuropsychotherapy for an Adolescent with Autism Spectrum Disorder and Anxiety

Introducing Graduate Certificate in Neuropsychotherapy
In this edition, we introduce the Graduate Certificate in Neuropsychotherapy. The Graduate Certificate was developed in collaboration with the Christian Heritage College, Brisbane, Australia. Four Graduate Certificate units are currently available as of June 2017. These units are fully accredited as per Australian Standards by the Tertiary Education Quality Standards Agency (TEQSA) for a period of seven years (when they will be reviewed), and will be run as distance education academic learning, currently with a two day intensive. This is an exciting development for Neuropsychotherapy and a step closer to the ultimate goal – a Master’s Degree in Neuropsychotherapy. All of these units will eventually count as credit towards the Master’s Degree when it is finalised (through the recognition of prior learning (RPL) process).

NEUROPSYCHOTHERAPY TRAINING AND WORKSHOPS 2017

Our trainings for 2017 are coming to an end with our training in Hawaii as the last Certificate training for the year. Before the end of the year we will also run some workshops for New Zealand High-Performance Sport (Cambridge, NZ), the APS College of Sport Psychology and the Institute of Sport Workshop in Melbourne on 1 December.

CERTIFICATE TRAINING 2018

Four Certificate trainings are planned for 2018 – Brisbane (Aus), Melbourne (Aus), Auckland (NZ) and Pretoria (South Africa).

WORKSHOPS 2018

We are delivering a series of workshops on Understanding Neurochemicals in Brisbane, Melbourne, and Sydney (dates, venues and a booking form are below, or you can go online to register at www.mediros.com.au). There are many bookings already, so please make sure you book early to avoid disappointment if you plan to attend.

EDUCATION CONFERENCE, 1 AND 2 MARCH 2018

We are organising a 2-day Brain-Based Education Conference at the Brain Center in Melbourne, on the 1st and 2nd of March 2018. Please visit our website www.ibbe.com.au for more information and share the information with your colleagues in the Education field. The focus of the conference is to enhance a better understanding of the principles and pedagogy of thriving learning (as opposed to the traditional fear-based learning which is currently the accepted situation for many educational platforms). There is significant interest in this conference and we look forward to an exciting two days in Melbourne.

2ND INTERNATIONAL NEUROPSYCHOTHERAPY CONFERENCE, 23-25 MAY 2018

We are very excited about this conference, especially after the huge success of the first conference in May 2017 (Brisbane). We have already had to change the planned venue (away from the Melbourne Brain Centre) to a larger conference centre, due to increasing numbers of registrations. The new conference venue is the lovely Catholic Leadership Conference Centre (in East Melbourne). We already have 70+ international speakers confirmed with many paper presentations and 36 interactive mini-workshops. Please visit the website www.neuroconference.net for more information and for registration. Pre-conference workshops are on 21 and 22 May 2018 (half-day workshops on Eating Disorders; Violence and Aggressive behaviors and Resilience).

I strongly suggest you register as soon as possible to avoid missing out on attending this event (this venue will most likely also become fully booked out).

FACEBOOK PROFILE

We now have a presence on Facebook – please visit “Neuro-Psychotherapy World” (remember the hyphen!) and “like”; “comment”; and “share” with others to spread the word!

NEW PUBLICATION – NEUROSCIENCE ANIMATIONS AND WORKSHEETS

During the last eight years we developed a series of five animations to assist clients (and clinicians) to understand the neural underpinnings of the developing brain, anxiety, depression, OCD and sleep.

Recently I teamed up with Dr Dionne Shnider (Philadelphia, PA) and developed a series of worksheets to assist clients and clinicians the enhance the understanding of, and reflect on the impact on the brain in relation to these issues. A manual explaining the neuroscience as well as guiding clinicians to the use of the animations and worksheets is also available. The manual and worksheets are available to order (e-copies – unlimited downloads) so they are immediately available to use. Please visit the website www.mediros.com.au/resources/order.

Enjoy the read!

Pieter Rossouw
The graduate certificate course in Neuropsychotherapy was developed as a result of interest expressed by many professional practitioners who have attended one or more of the Mediros Neuropsychotherapy training workshops with Adj Prof Pieter Rossouw over the last six years. The need was expressed for more in-depth academic learning in this field, that would also recognise by the Australian Qualifications Framework at a tertiary educational level, and could gravitate towards a Master’s Degree in Neuropsychotherapy. The result is the development of the first Graduate Certificate in Neuropsychotherapy in Australia and globally. It was developed by Adj Prof Pieter Rossouw in collaboration with the Christian Heritage College (CHC) in Carindale, Brisbane. This course is a world-first in formal Neuropsychotherapy training (i.e., not as an add-on to other Master’s and PhD programs). The course consists of four units and is fully accredited by TEQSA (The Tertiary Education Quality and Standards Association) as a tertiary education course. The first cohort of students enrolled at CHC in NP540 – Neuroscience for Neuropsychotherapy, in June 2017. The full course (all four units) will be available from January 2018.

**OVERVIEW OF UNITS**

The graduate certificate in Neuropsychotherapy consists of four units:
- NP540 – Neuroscience for Neuropsychotherapy
- NP541 – Theory of Neuropsychotherapy
- NP542 – Applied Clinical Skills for Neuropsychotherapy
- NP543: Specialised Clinical Skills for Neuropsychotherapy

Of these four units, two (NP540 and NP541) are available during semester 1, 2018 and the other two (NP542 and NP543) during semester 2, 2018. This offer will continue in years to come.

**DISTANCE EDUCATION**

Students may enroll for one or both units per semester. The two units are calculated as a normal 50% study load (part-time equivalent). Normally four units per semester is considered fulltime study.

This means that students can continue with other commitments (work) while engaging in their Graduate Certificate studies. The course is mostly online which means that proximity to Brisbane is not necessary. At this stage, we have students who live overseas and are enrolled in the course (one very keen student lives in the UK!). There is, however, a two-day face-to-face “intensive” linked to the units and at this stage the intensives are not available online, so students need to be in Brisbane for these two days. As some students live far from Brisbane and may enroll in both units per semester, we plan to run the intensives “back-to-back” in 2018 so students can save on travel costs.

**THE FUTURE – A PROPOSED MASTER’S DEGREE IN NEUROPSYCHOThERAPY**

The units are intended to build towards a Master’s Degree. Although it is not developed yet, we envisage more units in future – these units will all be recognized as prior learning and count towards the final outcome – a Master’s Degree in Neuropsychotherapy.

Enrolments for 2018 are now open and because there is a great interest in the course, numbers have had to be limited for enrolment – so first in first served!

**COST AND FEE-HELP**

The cost of the units is standard for most university offerings for online units at $2250 per unit.

**FEE-HELP**

Students eligible for Fee-HELP studying at CHC (an approved FEE-HELP provider) can apply for a FEE-HELP loan. When the students receive an Offer Letter from the college, they can then apply for the loan. Forms can be obtained from CHC website or the Government Study Assist website.

http://www.chc.edu.au/current-students/forms/

For more information contact Rossana Seminario rseminario@chc.edu.au or phone +61 (07) 3347 7900 or contact me at p.rossouw@chc.edu.au

I really hope you will consider enrolling in this exciting course – it is well demonstrated to be the cutting edge application of neuroscience for Health applications as well as for Educational and Sport Psychology settings and for the Organisational Psychology field for the 21st century!
I feel privileged to be one of the cohort of 13 students able to attend a weekend intensive at CHC in Brisbane. Together we represent the first students – participants, for sure – in a process guided by Prof Rossouw and Jonathan Wills. We are fortunate, too, to have such careful and thorough support from Dr Stephen Beaumont and his staff in the School of Social Sciences, CHC.

I travelled 16 000 km to this weekend class. It is my third trip to Australia since the beginning of 2017. What, quite a few people have asked, has motivated me? Put another way, why is a broader, deeper appreciation of neuroscience and its application in Neuropsychotherapy so important? Not just to me, of course, but to my twelve peers, too.

We all recognise that what we do changes people. When we do what we do and it changes them for the better, we feel successful. What makes us successful in this way can be explained by neuroscience – for each one of us, counsellors, educators, psychologists hypnotherapists and those working in business and industry. What soon becomes very clear is this: it is not what we do or the model of doing it to which we subscribe; what is important is its brain basis. It is the neuroscience that underpins our interactions with others – anyone, wherever that may be – and influences our own experience that is the key. The key that opens a door to insight.

My first visit to Brisbane in March 2017 (My first time in Australia) was to attend Prof Rossouw’s NPT Certification Course at Brisbane Royal and Women’s Hospital. It represented to me an opportunity for personal fulfilment and professional development. It also offered a certification that was certainly useful to me as a therapist.

My second outing to Queensland in May 2107 was to the inaugural NPT Conference, again at BRWH but this time based in its Education Centre. Along with simply absorbing so much essential knowledge I was able to share my own experiences working with misophonia using a brain-based therapeutic framework. At the same time, I began to recognise that I was becoming a part of a very special community: a community of those drawn from many walks of life and from many parts of the world but with a consistency of understanding that what we are and who we are is the product of our neurology. We are those neural networks.

What then does a Neuropsychotherapy Graduate Certificate add to this? A question that seems especially pertinent when we consider that each of us attending classes on that first weekend in September already has a very strong feeling about the subject. Is it to broaden and deepen knowledge or to ensure its consistency across our group? Or is it to provide utility, allowing us to do our jobs better? Perhaps, though, it extends beyond these outcomes and its value is as much in its process.

Professor Rossouw ensures, too, that we are not simply being taught about a brain-based approach but the educational model by which we learn is created in that same arena. And, therefore, its process has a further pertinence of great strength. We are on a journey; recognising, accepting and promoting a scientifically-valid world-view.

At the same time we have now entered into an era when neuroscience is a frequently-encountered topic. A period of statements in the mass media – and even by some therapists – involving cherry-picking of often less-scientific aspects and often to support their own self-interests.

This is, I guess, an ethical issue that we should be prepared to redress. As graduates, perhaps, we will have an authority to challenge.

This is not so much about what the tertiary study of NPT consists but, as a student, why? So, then, I shall resist listing what I expect to learn and ticking off topics as covered by the course. It is about authenticity and the authority of what we will know when the process reaches its conclusion.

It is also about our participation in a process of democracy: we now share in an opportunity of awareness of humankind that is there for anyone prepared to make that effort to become a part of it.
Learning Experience

I am thoroughly enjoying the depth of exploring neurophysiology! This course is not stretched wide in my opinion and allows circularity of going over the ‘same’ ground and finding ever more subtle learnings applicable to me. The readings & Montgomery offer key info, we discuss on Moodle through our reflective pieces informally, then expand more on the same info in the first essay, then expand & apply the same info to a case in the second essay. This 2-day intensive expanded more deeply on the same info over & over! To the untrained eye (outside person) this could look boring or as though we’re not moving forward – nothing could be further from the truth in my experience.

I enjoyed the deliberate relaxed atmosphere and that we get to walk our neuroscience talk (down-reg our ANS as much & often as needed). Reflective activities were enjoyable as we had prior knowledge of the themes – just fabulous.

I also note my brain is changing drastically through this course, as the world we’ve been living in is quite toxic and it’s now obvious. I’m keen to keep learning and move into a new paradigm safely.

Thanks, Pieter.

Student feedback:

Helped with the internal process & facilitated connection to the text, past, people & subject.

Heartwarming meeting of people, seeing the diversity yet similarity. Wonderful experience.

Student feedback:

I found the right brain to right brain process put into words and demonstrated through shared reflections to really drive home the importance of connection. As therapists we know of this connection on some intuitive level, to see this ambiguous process come to life through the Neurobiology of the brain has clarifies the process on a different level. I believe in the process. The more I learn the more faith I have.

Student feedback:

The two days represent a genuine banding with other members of the cohort and an understanding that – even although we came from a diversity of cultural and professional backgrounds – we all recognise the importance of the neuroscience underpinning of our lives.

The two days have been an opportunity to illuminate the topics covered. The time has allowed me (us all, I think) to appreciate and to understand the reading done before the intensive.

The style of learning has been wonderful – it has consolidated and expanded knowledge in ways that have seemed effortless. The facility and hospitality have been faultless, too!

Student feedback:

Came nervous but excited.

Understood little before, became slowly familiar with terms that now seem familiar. Before arriving here my understanding was limited. Listening, engaging and discussing has given me the best chance of learning new concepts. Mixing with like-minded people is inspiring. Hearing that that it is not about Pass or Fail but is a “learning process” is encouraging.

Will be looking eagerly to interact with people now knowing how things are working in a neuro-sense. Pumped!!

Student feedback:

The learning experience for me has had both personal & professional application as we have not only connected with each other but also where personally, I’ve been able to connect life experiences to the Neuroscience of the brain & consolidate the learning already undertaken through private study.

The opportunity to hear from others, to see their vulnerability, hear their experiences and see how others are also connecting with the materials is both encouraging & supportive.

Thanks everyone.

Student feedback:

Learning Experience of two days

• Relief

When I discovered that most of us were experiencing similar struggles with the content I could re-set myself in terms of my progress to date.
Increased Understanding
I really needed the verbal back and forth to build my understanding as I found much of the textbook challenging. I benefitted from the repetition, the different perspectives, and the many examples.

Sense of delight
Finding out that I didn’t need to continue as though I were training to be a therapist was liberating. The opportunity to own other content and process, to make it my own and apply it to my own circumstances and passions was exactly what I was hoping for from this course.
Thanks so much.

Student feedback:

- Encouraged to learn more: Would like to follow up on Chris’s afferent / efferent pathways to amygdala
- Great reminder importance of sleep hygiene, would like to learn more.
- A better understanding of amygdala & ANS and HPA; (still want more grasp re hypothalamus – encouragement to follow up)
- Loved the diversity of every Kim showed Parasympathetic and Sympathetic, systems & Tanya (with actions). Surely the brain coming alive.
- Emerging a better holistic grasp of brain ACQ, OFC etc. not well known to me but getting there. Doing a casual presentation myself was educational for me.

Student feedback:
Reflecting on the two-day workshop has been a huge learning experience, both personally and professionally.

I enjoyed reflecting on the principles and theory of Neuroscience, and Neuropsychotherapy.

1. Connecting
2. Creating Safety
3. Develop awareness of understanding of the subject 1,2,3 models.
4. Learn how to use this skill both professionally and on personal level.
5. How important our human thinking process and reflects the concept of what we wire into our brain. Thought thinking is stored in our consciousness and mind.
6. The link between brain, mind and spirituality

Thank you for a fantastic opportunity of learning.

Student feedback:
Learning experience over 2 days

Coming here over the past two days has been very enriching and confidence building. I found that re-iterating some things that I knew of with neuro-activity deepened my understanding. It also re-affirmed what I had learned previously was on track.

The concept of learning was consistent with the theory of neuroscience 2 learning. The relaxed & interactive flexibility of the lecture was engaging and insightful. The opportunity to hear everybody’s insights was so refreshing and rich with learning.

This did exactly what the (N) theory stipulates - it developed connections with the group.

Thanks for a great weekend.

Student feedback:
Having the time broken down into manageable chunks, making this a lot easier to understand, hopefully allowing me to read this chapter again with a lot more understanding allowing me to integrate this knowledge in a more comprehensible manner to formulate a reasonable all round essay which produces both learning & understanding.

Great learning over the 2 days!

Student feedback:
I found the intensive to be very relaxed & respectful. Pieter did a great job of making us all feel safe.

It was a place where questions were invited & explored together. Each person presented in their own unique way and I loved all the different modes and personal stories. It was especially enjoyable to eat together in community and to have Pieter, Jonathan & Steven join us. I feel like the two days has helped reinforce the information we learned and I’m inspired to continue to learn more in the time to come and also to get to know the other class members on an even deeper level.

Thank you so much!

Student feedback:
Connection is an incredibly powerful tool to help each individual to feel safe & therefore able to take the risk of making new neural pathways toward thriving.

How we understand the development and working of the brain allows us as practitioners to have empathy for clients whilst also managing our own reactions.

Good information/education about why we behave in certain ways can reduce the stress response. Chris referred to this as “no surprises” principle.

If connection comes from feeling understood & neural development happens when connections & attachment occurs then our roles are to know ourselves, know our clients & know our environment to increase safety.

Thank You!!
Graduate Certificate in NEUROPSYCHOTHERAPY

TRANSFORM YOUR WORLD
Graduate Certificate in NEUROPSYCHOTHERAPY

CHC, with the assistance of leading neuroscience expert Dr Pieter Rossouw, now offers a Graduate Certificate in Neuropsychotherapy that draws upon the latest research and focuses on the practical applications of neuroscience findings in counselling and psychotherapy.

COURSE INFORMATION AND ENTRY REQUIREMENTS

To qualify for entry to the Graduate Certificate in Neuropsychotherapy, applicants must possess at least a Bachelor degree in counselling or in a related people-helping field. Minimum English language proficiency requirements also apply. Alternative entry requirements are also available.

WHY NEUROPSYCHOTHERAPY?

• Gain a deeper understanding of the brain
• Assist with deeper communication between the professional and the client
• Learn theories on restructuring the brain towards higher levels of functioning and well-being
• Develop strategies to shift unhelpful response patterns
• Gain understanding of how to engage with a wide range of biological, psychological and social challenges
• Enhance resilience and wellness

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<th>Semester 1 units:</th>
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<td>NP540 Neuroscience for Neuropsychotherapy</td>
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<th>Semester 2 units:</th>
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<td>NP542 Applied Clinical Skills for Neuropsychotherapy</td>
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<td>NP543 Specialised Clinical Skills for Neuropsychotherapy</td>
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DR PIETER ROSSOUW - MClin Psych, PhD, MAPS, MCClin, MQCA, MIACN

Pieter is the Director of Mediros Clinical Solutions, The BRAINGro Institute and The Neuropsychotherapy Institute - companies that provide training and conduct research in Neurobiology and Neuropsychotherapy. Pieter is also an Adjunct Professor in Brain Based Education at Central Queensland University (CQU) and the President of the International Association of Clinical Neuropsychotherapy (IACN). Pieter was Director of the Master of Counselling program in the School of Psychology at the University of Queensland. He has also taught at various universities in the USA, Canada, New Zealand and Australia.

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EXPRESSION OF INTEREST

NAME: ......................................................................................................................................................
PHONE:  ......................................................................................................................................................
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Reason for Referral

Therapy client Mary is a 40 year-old woman who was referred to therapy by her rehabilitation provider following an injury to her left thumb and hand/wrist. This accident occurred at home when a heavy weight fell on her hand. Mary saw her General Practitioner who treated the hand conservatively with analgesics and rest but with limited success. She developed high levels of pain and an X-ray was taken showing no bone injury, and no additional diagnosis besides bruising was noted. Mary saw a different doctor who applied a plaster cast in order to immobilise the hand. Subsequently she developed increasing anxiety to the point where she removed the cast herself. She was provided with more analgesics, and sent to a physiotherapist who noted high pain, tension and anxiety levels. Mary was then referred to me for a short-term pain management intervention while physical investigations were ongoing.

History of Presenting Problem

When the index injury occurred, Mary had just started a new job as an assistant manager and was still in a trial period. She had worked very hard to get this job and felt the injury had put her at risk of losing it because she was unable to continue in her full duties (e.g. unable to lift objects or maintain full hours). She reported she felt threatened by her injury and feared failure in the job and reported that she had developed significant anxiety and worrying. She was tense, tearful and in pain when we first met. She had panicked because the situation felt as if it was out of her control; however, she was unclear why she reacted with panic. Mary also feared becoming depressed. She advised that she had seen counsellors in the past for mood issues but had dropped out after initial engagements, once after childbirth and once after a separation.

Personal History

In her background history, Mary described how she came from a close-knit family and that the family had held a central position in their community where they ran an owner-operated business. She has one younger sibling. With regards to the relationships in the family, she felt that the younger sibling had stepped into her father’s footsteps and that she, Mary, had never fully gained her father’s approval. She felt closer to her mother who relied on her for emotional support. She described her sense that boundaries could be blurred, that it could be hard to assert herself, and that she often felt guilty when with her mother. Mary did not report other adverse early childhood circumstances. At the age of 15, however, she felt traumatised when her boyfriend died in an outdoor accident. As a teenager she felt disconnected from her peers as she had different interests; e.g. she was uninterested in having boyfriends or going out drinking. She met her first partner at the end of her schooling and married him, then began working though unsure of her career pathway. When she became pregnant at 26 with her first child, her family of origin lost their home and business and with it their status in the community. This was a traumatising event for all involved. The parents came to live with her and her then-husband. She gave birth to their child two months later, and developed post-natal depression, requiring her mother to look after the baby. Her parents struggled to rebuild their lives and she supported them throughout the crisis. Her husband abused substances and this had created friction in their relationship. Mary had a second child; however, she separated due to her...
husband’s drug use. She felt she had made bad choices with men, being unable to find a partner who treated her with respect, and since then had engaged in casual and short-term relations only. These provided her with temporary pleasure but guilt and emptiness afterward. She began focusing on work more in order to rebuild her life. Currently, Mary and her two children live with her parents who assist with childcare while she works. She stated that the importance of work was connected to her goal of reaching independence, as without earning her own money she would continue relying on her parents for support. This causes her to feel stressed and trapped, and she feels it would prove she was a failure.

FORMULATION

Mary grew up in an outwardly safe environment and a family constellation of biological parents and one younger sibling. She grew up in the absence of abuse and with hard-working and community oriented parents. Attachment history shows that she was very close to her mother to the point that mother relied upon her for support as she grew older. I hypothesise this to have caused the client ambivalence in her attachment, and compromised the development of a sense of control and self-determination. I also believe that this may have led to an insecure or anxious predisposition leading her to react fearfully to loss of attachment. As an adult, she recognises that she experiences guilt and anxiety when trying to assert her needs to her mother or other close people. She has found it difficult to engage in counseling and this may have been an outcome of this dynamic.

Mary’s relationship with her father was distant and she stated that she never felt validated or recognised for her achievements, instilling the belief that she was not good enough, or even a failure, affecting her confidence and self-worth. Both patterns maintained each other, as no support for independence and self-determination could be gained from her father, and her need for recognition reinforced closeness to her mother. This may have left Mary vulnerable to anxious attachment and under-sourced to regulate emotions. As an adult, she felt that she chose partners who repeated these dynamics, and found herself in relationships that were dysfunctional and undermined her self-respect, feeling as though she had failed and unable to make changes.

Serious trauma occasioned by the loss of an important attachment as a young teenager was met with withdrawalal responses and Mary was unable to process the pain and grief sustained in the loss. Family trauma some years later showed her ability under stress to cope with issues, but unable to provide nurture for herself (from herself or others) leading her to become exhausted and depressed; this in turn confirmed her negative self-beliefs.

The community orientation and hard work of the family, however, created resources and capacity outside the family and she was able to build extra-familial relationships and develop a strong ability to problem solve, task-focus, organise and look after others. She had recently put these strengths into building a career.

Neuropsychotherapeutic Aspects

In The Presentation

CURRENT PAIN PROCESS

First, I tried to understand the meaning of this client’s pain and injury in the wider sense of the neuroscientific framework. I considered how, theoretically, the neuroscience of psychological pain indicates that the neuronal networks between physical pain, psychological pain (emotional) and social pain (attachment) may overlap. Applied to this case, my hypothesis was that Mary presented with an injury that had not only activated neuronal pathways associated with the sensorimotor area of the injured area, but which also served as a trigger to activate other emotional and social pain networks, leading to significantly anxious and emotional reactions to her pain experience and her catastrophic reaction to anticipated consequences which she felt unable to control.

Pain activates the HPA (Hypothalamus-Pituitary-Adrenal) Axis and leads to stress activation. The client’s limbic system (2) was responding with intense fear to the pain (2:1 activation of limbic system to survival system (1)). Mary complained of insufficient skills to downregulate the limbic system and reduce her stress, whether by reasoning (e.g. telling herself the injury was not life-threatening), activities (e.g. self-nurture, calming activity), or seeking social support (e.g. asking for assistance) so there was a compromised 2:3
When looking at the nature of the anticipated consequences of the injury, these were less associated with the physical integrity itself (e.g. no fear of losing limb, having permanent disability or disfigurement), but strongly associated with social pain (e.g. losing her job and staying dependent on parents, disappointing her children) and emotional pain (e.g. this would prove her a failure, fear of depression, fear of loss of control). I formulated that this meant the pain had served as a trigger for existing neuronal networks that activated a fear response associated with social and emotional pain. This caused a sense of being overwhelmed and led to further activation of the 2:1 system and further reduction of 2:3 activation, leaving Mary feeling out of control and in panic.

These activations were thought consistent with the dynamics reported in the history, and a neuronal make up in which compromised attachment experiences had formed a network that would activate anxiety and survival responses in the context of these. In addition, past significant (traumatic) losses had led to downward activation from the limbic system (2:1) without application of context or ability to rationalise responses (e.g. due to age and level of being overwhelmed). Some of those memories probably remained disconnected, without context or connections to those frontal areas required to downregulate distress, so associated memories are thought to have the ability to re-activate intense anxiety and 2:1 activation.

**BASE ELEMENTS OF NEUROPSYCHOTHERAPY**

Within this framework, the motivational schema of this client and how she had met her basic needs of attachment, control and pleasure, and achieved self-actualisation were considered.

Previous experiences, in particular, in interpersonal areas, had caused Mary to develop neuronal networks that could not respond to interpersonal challenges with a whole-brain activation that would allow her to respond with the ability to self-regulate emotions, e.g. using rational thinking and down-regulation of stress responses. Instead, previous networks existed (e.g. that early and traumatic experiences were uncontrollable), had set up a 2:1 limbic system to a survival system response in the face of interpersonal challenges which she aimed to avoid, as these caused her to feel out of control and overwhelmed.

a) In the intimate attachment area, Mary had developed patterns of avoidance of close partnerships and had sought brief relations with “unavailable” men. This fulfilled short-term pleasure (pleasure seeking and pain avoidance were achieved), but also undermined her self-respect and confirmed she was unworthy. Based on the neuronal model, the attachment situations lead to initial activation of a positive reward but then initiate a survival response when they are lost, thereby provoking a repetitive circuit. Mary felt she was not in control of this process and it caused her distress, but felt unable to make changes. Due to the lack of 2:3 activation, she could not use her prefrontal cortex to modulate her stress response (e.g. not use top down regulation of anxiety) or act in line with her own knowledge and values (that these relations were unsatisfactory long term; she called this her “thought prison”).

b) Mary had also remained in a partially dependent relationship with her mother. This relationship gave her positive recognition but at the same time undermined her self-determination. This meant an initial activation of reward response but subsequent activation of an anger response which in turn caused anxiety and survival response (2:1 activation) when she would distance herself, for fear of loss. Here too she had avoided exerting independence and asserting or prioritising her needs due to anxious avoidance of potential loss. The lack of 2:3 activation made it difficult to act in line with her long-term goals and values (e.g. being a positive role model for her children, achieving positive self-esteem and independence).

These patterns maintained low self-regard as a protective mechanism, e.g. maintaining self-esteem in avoidant ways and so Mary was protected from re-traumatisation through loss.

In addition, based on neuronal principles, I believe that change had become difficult because neuronal connections were reinforced by neurochemical processes, e.g. the effect of dopamine accumulating in areas of high activity in the brain, and therefore the “status quo” (passivity) was maintained.

a) Mary was able to meet her needs for pleasure and control by developing approach patterns, in the “safer” area of work, for example. She was able to emphasise work as an area of building more positive self-esteem over time, pursuing a long-term goal of gaining control and independence in this area. Here, she could use her strengths in task- and problem-solving for example (prefrontal activation). Activation of the limbic system in the face of challenges leads to cortical activation (2:3 activation) where context and rational analysis can be applied, and down regulation achieved. Consistent with the above (a, b) however, when work challenges were interpersonal in nature (e.g. criticism, compliments, asking for personal needs), it would continue to activate a survival response (2:1 activation), although less than in her personal life.
I hypothesised that the injury complications had caused compromise in getting Mary’s basic needs met in the “usual” way (especially in practical achievements at work), and especially in the areas of control and attachment (for her obtaining independence) and that this caused her threat to the main area of approach-oriented functions. The present pain-generating injury (HPA Axis activated) became the central focus of compromise, resulting in 2:1 activation. Mary explained that pain made her feel “weak”, which caused her anxiety and the sense that she was losing control. Pain focus, preoccupation, tension and anxiety linked to the injury, increased pain and disability perception to the point of panic (e.g. self-removal of cast) and withdrawal (e.g. staying away from work and others).

**Therapy**

**Initial phase (2 session assessment)**

Mary presented as highly anxious, and tense and tearful in the first appointment. She did not move her injured and splinted hand which she rested away from her body on the sofa side, and pain was reported to stretch from thumb to shoulder. She had intermittent eye contact and it appeared she was both relieved she was there and able to talk and anxiously hesitant to disclose.

- My first focus lay on establishing a safe place for her, helping her downregulate her limbic system and creating a positive therapeutic engagement by validation and acknowledgement of the presentation.

I did this first by discussing the referral and purpose of the meeting, confidentiality assurances and the structure of the sessions. I asked for feedback frequently, and offered her a short breathing exercise early on in order to establish a sense of calmness from which we could proceed, given her distressed state. She accepted this and it settled her, and she was ready to talk.

The client had achieved down regulation of her limbic system and was able to activate her prefrontal cortical response in order to provide a history of her presenting issues, consider her current situation and what she was seeking assistance for. I modelled calmness (e.g. making use of function of mirror neurons) and non-threatening (non-judgemental) positive regard (interpersonal safety, trust).

Mary was able to disclose much of her history and visibly relaxed. At the end of the sessions, I elicited feedback via a short session rating form.

This was thought to provide another tool for the client to feel heard and therapy to be collaborative, aiming at enabling her to feel in control of the process and to maintain a 2:3 activation.

- The second step included providing Mary with feedback about the information gathered, both about the physical injury and pain experience (based on psycho-physiological processes) and a framework for her experiences (introduction of the 1:2:3 brain model), and my hypothesis about the highly anxious reactions to the injury based on the above connections I thought had formed and how it could trigger anxiety, with which she agreed.

**Intervention (7 sessions)**

**Session 1**

I focused entirely on the provision of tools for tension reduction, relaxation and induction of calmness (down-regulation of limbic system) extending those practised in the first phase (deep breathing, self-soothing techniques, attention refocus, tension reduction ratings) and suggested she establish a safe and comfortable time-out space in her home. I used the brain-based model to include education about the relationship between the brain, pain and anxiety in this session to provide the rationale for the interventions.

**Session 2**

Mary presented as much more relaxed, with increased movement of her hand and reduction of pain in site from thumb to elbow, although the pain was at the same intensity. She found the framework and the exercises useful and had used them a lot and felt less stressed (having achieved down regulation of limbic system). She also reported not to have cried when she had had to attend a meeting with her employer and was better able to think (being able to activate 2:3 system). This had made her proud (dopamine release).

We discussed her reactions to the employer and how she had remained in control to reinforce the behaviour. I introduced more tools that would help her with pain management (e.g. activity pacing, attention refocusing) to avoid overwhelming and stress responses, enabling her to stay in this mode of activation. I also decided to include tools for personal self-nurturing in small fashion. I was aware that she had low self-regard and was not to be overwhelmed and I wanted to reinforce and build on her positive regard for herself (I introduced controlled incongruence in area of self-nurture and reward). Lifestyle interventions were also suggested as part of this; for example, light exercise besides those she completed at physiotherapy, eating a balanced diet, and some fun and social activities. This would help with reduction of her isolation and activation, including achieving pleasure.

**Session 3 and 4**

Mary presented with further centralisation of pain to wrist and thumb when resting, and pain would spread out when being active. She reported an up and down pain intensity, and a hand that was sore rather than painful. She was observed to hold her hand close to her body and move it much more naturally (e.g. to wipe hair away from her face). She had begun to attend work. Mary reported to have had a “lightbulb” moment when she was reflecting on the word ambivalence and how she felt distant from her father and too close to her mother.
She also reported about the gap between knowing and doing and asked how she could make change. Mary was working in 2:3 mode and was thinking through her past experiences of parental attachment with no stress activation. She felt safe in the session and safer in her body (down regulation) and she had prioritised her needs (was able to face old patterns with a view to thriving). She was in control with the framework that gave her the opportunity to use her rational mind and she was calmer and more confident in considering opening the “thought prison”.

We watched “mibrain” animations and explored ways of weakening current associations and building new connections. Mary was introduced to ways of building new neuronal connections that would allow her to connect, for example, with other people outside the system or re-focus her time and effort onto other relationships. Also, we planned some graded exposure (controlled incongruence) exercises in areas where she might have to negotiate new skills (e.g. saying no to demands at work, negotiating childcare times with mother). At this stage, I believed that Mary had succeeded in disconnecting pain from her feeling weak and out of control.

**Session 5 and 6**

By session 5 Mary had returned to work full time and, in addition, had attended a job interview and obtained the position of manager of her area. An MRI scan confirmed a ligament injury and that also reassured her about the pain and recovery process. She largely stopped talking about the physical pain. She felt she was using her full potential at work and had improved confidence, but reported to feel both a fear of failure as well as pleasure and excitement in the face of the new position. She explained that this was much more based on emotional reasoning (e.g. feeling, 2:1 activation) than on thinking she would actually fail and she could oscillate between feeling confident and calm, and nervous and worried. She wanted to learn how to deal with the feelings.

The client had re-established much of her “usual way” of achieving pleasure, control, connection and self-actualisation in the area of work achievement, the loss of which had marked the onset of her recent crisis. Moreover, she had also begun to build new behaviours (connections) that were fragile in the face of challenges (a new job, new targets of interpersonal stressors). I believe these challenges could activate the 2:1 system based on her “old” pattern of need to maintain low self-regard. Mary wanted to “let go” of the reactivity of her limbic system and stop having to avoid the feeling of fear of failure.

Mary asked for tools to decrease the fear of a typically anxiety-provoking and avoiding feelings of failure. We practised an experiential exercise lent from Acceptance and Commitment Therapy in which she was instructed to focus on the feared emotion and its physical components while relaxed, and observe its course in physical terms. In this way, she was directed to expose herself to avoided stimuli while being in control (limbic system calmed) so that the neural pathway between the stimulus, limbic system and survival response could be disconnected or weakened. Mary was able to complete this exercise and achieved a complete resolving of the fear and failure emotions. She reported a sudden insight (2:3 activation, new memory activated) that every time she had tried to better herself in life, others had withdrawn (this thought consistent with the formulation in which self-determination, independence etc. was discouraged). She wanted to change this dynamic.

The session feedback from Mary indicated that she wanted to speak more about one of the intimate on-and-off relationships she was having. Her confidence had increased so as to address some of the avoided topics. This confirmed that the attachment trauma (pain) was one of the underlying drivers.

"By session 5 Mary had returned to work full time..."
Session 7 (the last session; one more follow up session was approved)
Mary had sustained working, looking after and having fun with her children, and had built a much more balanced routine. She had cancelled numerous sessions due to work demands, the November earthquakes and school demands in the run-up to Christmas. Her pain had localised to the thumb area and prevented her only from completing specific actions, e.g., opening jars, but not affecting her overall performance. She presented as organised, and reported as loving her current work challenge. Mary also talked about her relationships and did so in a calm and analytic way, stating that she had had some recent positive experiences with her mother, colleagues and friends. She noted, however, that she felt many of her existing relationships were unhealthy and that she now focused on connecting more with new people. She felt she was back to her normal self but “more whole” since attending sessions, and finding it easier to live a more enriched and balanced lifestyle. The area of concern causing confusion was associated with intimate relationships. Here she reported feeling somewhat lost, uneasy and not knowing where to start.

Mary had remained in 2:3 activation for several weeks, and continued to work on her new skills (calming her limbic system, maintaining healthy lifestyle, achieving at work, asserting herself in relationships). She did not talk about her physical pain being a barrier. She had opened her “thought prison” and reflected on her relationships without utilising avoidant strategies (2:3 activation). It allowed her to realise that many other relationships followed the pattern of her maintaining low self-regard (consistent with formulation), and she had distanced herself from these (weakening of this memory pattern). Mary embraced the idea of building new capacity and connections in line with her values, while remaining in control. This is thought to create new 2:3 memory networks and weaken the existing fear based connections. Mary also illustrated a change in her perception of feeling more “whole”. This may indicate her extended “whole brain” activation (e.g., engagement of prefrontal cortex) in a range of situations, rather than operating in an anxious and limited fashion where the limbic system dictated her actions.

The area of intimate relationships could cause ongoing activation and confusion, however (prefrontal cortex unable to engage, limbic system activated). I hypothesised that intimate relationships are not only associated with the pattern of low self-regard (as those she began challenging above), but also with traumatic memories associated with anxiety, guilt, grief and loss and ongoing activation of the limbic system (2:1), which the client was not yet able to downregulate. I considered that these painful memories were continuously avoided and that she may require further education and self-regulation skills in order to be able to achieve 2:3 activation in this area. We discussed this formulation and Mary agreed, noting that she had always just tried to push these events away as they were too uncomfortable.

OUTCOME
The purpose of the contracted sessions was achieved; specifically, Mary had achieved management of her injury and pain and had returned to and sustained work.

In neuropsychotherapeutic terms, Mary had managed to downregulate her limbic system, activate her prefrontal cortex and gain insight into her underlying avoidance and approach patterns in order to meet her basic needs, and learned about the meaning of pain and injury in a neuroscientific way, beyond looking at physical processes. She had opened herself to some avoided feelings and changed her behavioural patterns, allowing her to build new neural connections in line with her values and weaken those that had dictated her previous behaviour in unchallenged avoidant ways. The client made a number of important personal changes on a neuronal level that allowed her to rebuild and extend her functioning.

With regards to personal intimate relationships and trauma, she would have to address this area in another setting/allocation, which she felt confident in doing.

REFLECTION
In this case, something occurred at the time of injury and activated such high anxiety that it panicked the client who had no explanation other than the injury causing pain. When she came to therapy, she responded to efforts of creating a safe environment for her - and most importantly - an explanatory model that allowed her to make sense of her experiences, both momentarily (e.g., brain activation) and from an historical perspective (the way the brain was wired). The framework was user-friendly and the client’s acceptance was high. She did not disengage as she had done in her past therapy contacts, and this was interpreted as confirmation that she felt safe and understood with her concerns.

I found that there was significant and rapid reduction of pain in the first sessions and after having introduced only a very small amount of pain management tools. I believe this confirmed the initial formulation though it was more than I expected in such a short period of time (see below).

The client embraced the concepts of the neuropsychotherapeutic model, and began speaking about other “pains” early on (connection, control), focusing away from the physical pain (without specific prompt to do so). As a therapist, seeing the client feel safe and able to make changes using the model, allowed me to remain in 2:3 mode also. I think I have done a good job in staying with the model and not over-engaging with the physical aspects in the presentation and intervention, which are heavily focused on functional elements. In fact, I believe that using the neuropsychotherapy approach allowed the client to make more significant changes, and the rapid reduction of the pain focus was an interim outcome, not a goal, of the intervention.

On reflection, this process may have lessened the risk for the client to develop a more chronic pain condition. Chronic pain may include changes such as:

- Attention focus on pain and ongoing HPA Activation causing changes in the neuronal network including inhibition of top-down cognitive regulation of emotional states
• Strengthening of activation in the sensorimotor representation of the affected limb and intensification of signalling, glial cell activation in these areas
• Widening of networks of these sensorimotor areas to invade non-sensory areas (motivation, cognition, memory)
• Rapid fear based learning process from painful sensations which is harder to reverse
• Higher default mode network activation
• Vigilance for anxiety signs, risk of misinterpretation of interoceptive stimuli as potentially dangerous — at the same time reduced awareness of body schema and surroundings
• Further rejection and social isolation through lack of return to work (neurobiological circuits of social and physical pain overlap) and cross sensitisation

Using a standard pain protocol might have increased the client’s anxiety and reinforced the above processes, as it might have left other overlapping neuronal networks associated with social and emotional pain in anxious activation and might have maintained an avoidant coping response.

The client needs to undertake additional personal work and it would have been great to complete this work with her; however, for the brief intervention provided and given the initial high level of disability, the changes she effected were profound, and I think, long-lasting. Mary has been able not only to return to function, but also to take on new challenges and make personal changes with which she had gone from strength to strength without causing overwhelm. She had “unlocked” her potential in the present, or, in her terms, opened the “thought prisons” and let go of past beliefs and feelings associated with these networks. She will need to find time and funding to do further work focused on maintaining the changes made and addressing other personal trauma related impact. She is well able to do so.

REFERENCES


Session Rating Form by Scott Miller, Barry Duncan and Lynn Johnson (2002)

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Introduction

REFERRAL AND PRESENTATION

Jordan was a thirteen year old male in year nine who lived with both parents and his two younger siblings, both on the spectrum, in the family home. He had been to see psychologists in the past for behavioural issues, but had not engaged with them.

Jordan was referred to me with a formal diagnosis of Autism Spectrum Disorder (ASD) and a number of behaviours of concern, in both the school and home environments that included:
- High anxiety
- Learning difficulties
- Lighting fires
- Absconding
- Aggression

Autism Spectrum Disorder is a neurodevelopmental disorder where the individual shows “persistent deficits in social communication and social interactions, deficits in nonverbal communicative behaviours and deficits in developing, maintaining and understanding relationships” (Diagnostic and Statistical Manual of Mental Disorders 5th Edition, 2013). Individuals may also show inflexible thinking and rigid or repetitive behaviour and this reduction in adaptive responding may underlie the increased levels of anxiety seen in adolescents on the spectrum (Hollocks, Howlin, Papadopoulos, Khondoker, & Simonoff, 2014). Adolescents with ASD show enhanced responses in the limbic-hypothalamic-pituitary-adrenocortical (LHPA) axis and increased diurnal basal cortisol levels as well as higher cortisol levels in response to perceived psychosocial stressors (Corbett & Simon, 2014). The enhanced up-regulation of the LHPA axis in young people on the spectrum, makes them particularly vulnerable to social isolation due to withdrawal behaviours, learning difficulties because of the lack of access to the PFC when the brain is upregulated or anxious, sleep difficulties due to anxiety and aggression as a possible result of increased cortisol levels.

Epigenetics is the study of how the expression of a gene is modified in response to its interaction with the environment (Rossouw, 2014b). The heritability of ASD is high and ASD is recognised primarily as a genetic disorder involving multiple genes affecting neurodevelopmental pathways in prenatal and postnatal brain development (DiCicco-Bloom, et al, 2006). Altered brain growth is a consistent finding with clinical onset (Pardo & Eberheart, 2007) and neuroimaging studies have shown that in addition to earlier developmental stages (Courchesne, 2004; Courchesne & Pearce, 2005) between 2 and 4 years of age, there is brain overgrowth in areas of the frontal lobe, cerebellum and limbic structures, areas intimately involved in the development of social communication and motor abilities (Pardo & Eberheart, 2007). An increase in both cerebral grey and white matter is seen in brain enlargement (Courchesne, et al, 2001; Carper, et al, 2002; Hazlett et al, 2005), especially white matter, immediately underlying the cortex (Herbert, et al., 2004). Increased growth in white matter in all lobes and the disruption of white matter involved in areas responsible for social functioning are thought to be one of the contributing factors in the difficulties in understanding and relating to others.

Jordan’s Depression, Anxiety and Stress Scale (DASS21) assessment showed extremely high scores across the ‘Anxiety’ and ‘Stress’ domains indicating an upregulated LHPA axis.

Rossouw (2014b) discusses Mclean’s (1990) ‘Triune Brain’ theory as a model for brain development, as a distinctive three-stage process. First is the primitive rep-
Much of the above was evident in Jordan’s behaviour. His attempts at calming his anxious brain were obvious in his fire lighting and the hypnotic effect it gave him, his withdrawal from school.

Firing from system 2 to 1 can be seen in an individual’s behaviour as withdrawal from daily activities, low tolerance, aggression, sleep difficulties memory issues and learning difficulties. Withdrawal or avoidance behaviours are an attempt to exert some control over the upregulated individual’s environment and a response to a perceived social threat. Increased cortisol levels seen in individuals with ASD, may underlie a quick and aggressive response style towards threat or environmental triggers such as demands from others or an intrinsic response to sensory stimulus that is either too much or too little.

Much of the above was evident in Jordan’s behaviour. His attempts at calming his anxious brain were obvious in his fire lighting and the hypnotic effect it gave him, his withdrawal from school.

Anne reported an ongoing battle with the school regarding supporting Jordan’s learning and sensory needs and felt that this was because of the school’s perception that the resistant behaviours Jordan typically displayed, (not turning up for school and wanting to stay home where it was safe, failing to participate in class, inappropriate remarks, scaring other students and a variety of anti-social behaviours) were malicious. Jordan’s behaviours were a direct attempt at pain avoidance. It was clear that Jordan had good connections with his family but was almost completely disconnected from his teachers, peers and school.

**APPROACH**

I felt that a neuropsychotherapeutic approach would be most suited to Jordan given its heavy emphasis on developing safety first and foremost in the therapeutic relationship and the client’s environment, in order for change to occur both in the client’s neural networks and their behaviour. When an individual’s safety is threatened in a compromised environment, neural firing occurs between the systems in the brain in response to the perceived threat. The consistency theory or Hebbian principle states that the ongoing activation of neural connections results in the increase of neural “wiring” (Hebb, 1949; Hebb, 1961), as stated in the term “neurons that fire together wire together”. Referring back to the afore mentioned 1, 2 and 3 systems, when threatened, system 2, responsible for regulation, fires towards system 1, responsible for protection, triggering the individual to fight or flee and in some cases, freeze. The firing between the 2 to 1 system will cause very strong neural connections or wiring between the
two, if the individual is trapped in an ongoing compromised environment. The longer the individual is exposed to this environment, the stronger the connection between the 2 to 1 system becomes and as they try to adapt, neural looping occurs resulting in a state of anxiety and unhealthy patterns of withdrawal behaviours in an attempt to find a safe place.

In Jordan’s case, school is considered a compromised environment, particularly for individuals with ASD if it fails to acknowledge when their sensory needs are being deprived or overloaded or when it views their behavioural inflexibility and impairments in social communication as intentional disturbing behaviour instead of symptoms of ASD. I felt that neuropsychotherapy could really help support Jordan to develop new and healthier behaviours if we could change the current firing of the 2 to 1 system to a 2 to 3 system. Jordan’s brain would start to develop projection neurons from system 2 towards system 3 (PFC) responsible for thriving, which would then help Jordan’s brain to retain information and reduce the fear based learning (Rossouw, 2016).

Jordan’s ASD causes his social and emotional world to be extremely confusing as ASD impairs audio/visual processing and therefore Jordan’s capacity for reading other people’s behaviour and decoding their social communication as intentional disturbing behaviour instead of symptoms of ASD. I felt that neuropsychotherapy could really help support Jordan to develop new and healthier behaviours if we could change the current firing of the 2 to 1 system to a 2 to 3 system. Jordan’s brain would start to develop projection neurons from system 2 towards system 3 (PFC) responsible for thriving, which would then help Jordan’s brain to retain information and reduce the fear based learning (Rossouw, 2016).

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Current and common treatments for ASD symptoms include Applied Behaviour Analyses, Theory of Mind and Social Skills Training. Neuropsychotherapy is very new and relatively untested approach for ASD and one of the central underpinnings of neuropsychotherapy is the ‘interconnectedness of us’. This refers to the brain’s mirror neurons and how they help us to understand the intentional state of others and develop empathy (Carr, et al, 2003). Through talking therapies, we can help clients to feel safe with unconditional regard and empathy and foster the same processes in their own neural networks. However, current research has shown that mirror neurons do not behave the same way in individuals with ASD (University of California, 2005) so how talking therapies, and in this case neuropsychotherapy would impact upon Jordan was unclear, however, providing a safe environment would certainly not harm him. We would not have enough time to address the social and emotional aspects of ASD in this lot of sessions as treatment for ASD is quite lengthy but I felt we could certainly help Jordan to learn how manage uncontrollable incongruence, become calmer and use more approach behaviours, improve his sleep and reduce or extinguish the fire lighting and other stated behaviours of concern.

My first priority was to create a safe space for Jordan in our therapy sessions and develop enough rapport so he would try out the strategies I had in mind. I decided to start of with something ‘safe’ that would not ignite Jordan’s defense mechanisms and I initiated a conversation about Jordan’s interest in quantum physics. We explored a few different theories and I suggested an online channel that had documentaries about quantum physics and spiritual theories and discussed the latest research on how the two were interrelated. Given Jordan’s interest in numinous experiences, I also thought it might be a good pathway into suggesting meditation and mindfulness for his anxiety in our future sessions.

In our next session two weeks later, I enquired about school and Jordan disclosed that he hated school and the only subject he liked was science. He stated he found the social interactions uncomfortable and felt awkward talking to people as he did not know what to say next to keep a conversation going. He stated he didn’t understand other people’s behaviour, which caused him to overstep boundaries like invading other’s spaces, saying inappropriate things and avoiding school. He didn’t feel that his peers liked him although he did have a couple of friends (one who was also on the spectrum) but who were at different school. Like most individuals with ASD, these social difficulties were a large factor in his underlying anxiety.

We discussed Jordan’s behaviour at home and he stated he didn’t know why he was antagonistic but that he just felt frustrated and angry. We explored the possibility that because individuals with ASD have to control some very intense feelings at school, sometimes when they come home they just let go and directed those feelings towards the people they feel safest with, ie, in their home with their family. Jordan’s attachment to his mother appeared to be secure. He allowed her to be in on most of his sessions and was mostly open in his discussions with her. Typical of his developmental age though, he would withhold some information at times if it was too personal in nature to be disclosed in front of her.

Jordan reported that he struggled to stay engaged at school due to his anxiety and that he often felt tired from a lack of sleep. I empathised with him and explained the effect of poor sleep on memory storage and cognitive performance, decision making and his ability to focus (Alhola, & Polo-Kantola, 2007; Kilgore, Balkin, & Wesensten, 2006) which he seemed very relieved to hear and stated that he was glad “it wasn’t just me being stupid”.

In Jordan’s case, school is considered a compromised environment, particularly for individuals with ASD if it fails to acknowledge when their sensory needs are being deprived or overloaded...
As this particular session progressed I noticed that Jordan relaxed in his seat and mirrored my positioning, unfolded his arms, maintained good eye contact and became quite agreeable. They were good indicators that he felt safe and heard.

Sound therapy was my first option for Jordan as it was easy to fit in to his daily routine and it may help him sleep. From a sensory perspective he could tolerate wearing headphones as listening to music was something he did everyday when he came home from school. The sensory needs of individuals with ASD must always be a consideration when choosing specific strategies for therapy otherwise they will not participate if they find a strategy too uncomfortable. I gave Jordan a CD to listen to and explained that it would down regulate his brain to an alpha state and interrupt the up-regulating 2 to 1 system firing he was currently locked into (Rossouw, 2016).

Psychoeducation was used to explain 1 to 2 and 2 to 3 systems and I showed him those areas on a 3D brain application. I explained that when Jordan becomes anxious his impulsive brain no longer communicates with his smart brain to help him reason out and put context to the situations and problem solve, but instead fires towards the survival brain triggering the fight, flight or freeze responses. It was obvious to me that Jordan was doing his best to feel safe and manage the uncontrollable incongruence at school by avoiding and resisting it. It was also clear that Jordan was stuck in a neural loop where the school’s compromised environment triggered Jordan’s resistance towards teachers and other students which in turn escalated the teachers’ responses towards Jordan precipitating an emotional and anxious reaction (2 to 1 system) and so on, until he was in a perpetual state of anxiety, resistance and withdrawal (Rossouw, 2016).

In terms of treatment I explained the way the sound therapy worked and that it could make his brain focused but relaxed so that if his brainwaves were to be seen on an EEG machine he would see alpha waves when using the CD. When the brain is in an alpha wave state, it is conscious but relaxed and is similar to a state of mindful meditation (Stinson & Arthur, 2013). I explained to Jordan that when his brain becomes very anxious it produced high beta waves and I drew both the alpha and beta waves on a piece of paper for him to demonstrate the difference. Jordan was very interested in the sound therapy and keen to try it out. I instructed Jordan to listen to it as many times a day as he wished but to ensure he listened to it at least once a day, preferably when he came home from school, for at least 35 minutes.

In our next session Jordan reported that he had been using the sound therapy and had found it very helpful, stating that he felt “calm” and that it helped him to fall asleep. I encouraged him to continue and also suggested that he research the different types of meditation to find one that he might like. I also explained to Jordan what mindfulness was and how to start practising (starting with bringing his attention to his body and noticing his breathing) while using the CD. Jordan agreed to practice this at least three times a week. I discussed the benefits of meditation while comparing the effects of drugs on the mind, given Jordan’s interest in wanting to try LSD, which I felt was an attempt at maximising his pleasure and avoiding the anxiety which opened Jordan up to the possibility that if he wished to explore what his mind could do in a spiritual sense then the safest way would be to practice meditation on a daily basis. Anne was supportive of Jordan practicing mindfulness meditation due to Jordan not being as antagonistic after school after using the CD.

In the same session Anne disclosed that she was considering home schooling Jordan as she felt she was out of options given Jordan’s avoidance of learning and school. She stated she had met with the school and had received a hostile and unsupportive response in regards to home schooling with a warning that she could be prosecuted if Jordan did not attend school. This only encouraged her to pursue the home schooling pathway and I was also supportive of this, considering the home environment to be a safer and more enriched place for Jordan to be able to learn. I did however

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educate Anne to consider building Jordan’s capacity for learning through a graded approach, using his favourite subjects to build his capacity and then introduce more of the subjects that were mandatory but not so much to Jordan’s liking, as well as involving tutors for those subjects. Due to the government’s National Disability Insurance Scheme funding, home schooling tailored to Jordan’s needs was a realistic alternative and Jordan and his mum set about facilitating this. I also referred Jordan to a social gaming group at Autism SA once a week for two hours, to support him with his social and emotional development. This was important to encourage Jordan to continue to take small risks in reaching out and communicating with others in a measured way as too much would trigger avoidance and to also ensure that overprotection did not occur, and again, enable too much comfortableness.

A couple of weeks later, Jordan attended with his mum and the difference in his anxiety levels were considerable. The DASS21 assessment showed significant decreases across all domains. Jordan was happy and animatedly discussed his computer engineering subject, drawing coding on the white board that neither Anne or I could understand but nevertheless, we enjoyed Jordan’s considerable change of mood and his obvious confidence in explaining to us what he was learning. His ability to take in information had improved and the antagonism in the late afternoon had stopped. He was happy and engaged in his learning and his brain was now operating from the 2 to 3 system indicating neural proliferation. Not everything was perfect with both his tutors however, but after some counselling and psycho-education about controllable and uncontrollable incongruence, Jordan was able to view the difficulties with one of his tutors as controllable incongruence instead of avoiding him, through using some of his mindfulness techniques. This was a huge step for Jordan to be able to sit with being uncomfortable but still feel as though he had some control.

In regards to Jordan’s fire lighting, ritualistic behaviour is common in individuals with ASD, and so this issue was particularly concerning given the behavioural inflexibility and the uncertainty of the developmental pathway of ASD (Langen, 2009). Jordan reported that he felt a sense of calmness from watching the way the fire started and consumed the paper and paraphernalia, and although he had tried, he could not replicate that feeling through watching a realistic video of fire burning. I explored a number of likely consequences that could occur should Jordan continue to light fires and then followed with an explanation about Hebbian theory (Hebb, 1949) and used the term “neurons that fire together wire together” (Löwel, & Singer, 1992) in both healthy and unhealthy ways. Given that Jordan was on the spectrum and prone to repetitive behaviour, I emphasised that he was at exceptionally high risk in the future of harming himself or others if he continued to light fires. The scientific/biological explanation of habit forming (neural looping) was appealing to Jordan and he appeared to be well engaged and motivated to try hard to stop. I asked him to research the brain and educate himself about how habits form and requested that he used the CD I gave him earlier and pair it with a visual that he could find on You Tube. We needed to try and replicate the pleasure and sense of calmness Jordan felt when lighting fires in a safer and healthier way and You Tube had a variety of videos Jordan could pair with his sound therapy and increase the sensation of calmness. Jordan agreed to do this whenever he felt the impulse to light fires.

A fortnight later both Jordan and Anne attended our last session. Anne reported that things had been going well and there had been no fire lighting at all. Jordan agreed with this and said he had been using You Tube and the sounds and had found them very enjoyable and calming. He stated he hadn’t felt the urge to light a fire as he had been feeling much calmer and tended to use his strategies regularly. He was also very excited and animated about his learning and was getting along well with his tutors and was even developing some empathy towards his younger sibling, demonstrated by his acknowledgement that he felt bad about his previous antagonising. His consideration of his sibling showed that he was feeling better and we discussed some Theory of Mind exercises to be practiced at home, designed to help Jordan take the perspective of his younger sibling and encourage the development of empathy.

A three month follow up session showed that Jordan had not only sustained the changes in behaviour but was flourishing in his learning and had even had significant success in showing support for a young female of his own age, due to taking a risk and following some of the strategies learned in his therapy sessions.

CONCLUSION

Individuals with ASD tend to experience very high anxiety due to their impaired ability to understand other people’s behaviour in a social and emotional context. This means their brains are often firing from systems designed for survival, protection and control. They often become caught in unhelpful patterns of behaviour or neural loops that trigger them to withdraw or become uncontrollably angry, particularly when they are in a compromised environment where their sensory needs are deprived or overwhelmed (Rossouw, 2016).

School is often the primary environment for uncontrollable incongruence and it compromises the individual’s learning by perceiving their attempts at safety and

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control as dysfunctional behaviour aimed at disrupting the teaching environment or as a personal attack at the teaching staff, instead of the symptoms of ASD.

Neuropsychotherapy worked in this case by taking the bottom up approach, reducing the firing of the 2 to 1 system by developing a trusting, empathetic and safe environment for Jordan, utilising his interests to build common ground as a precursor to therapeutic strategies that effectively bypassed any resistance often seen in individuals with ASD (Rossouw, 2014b). Sound therapy, coupled with visuals helped to decrease Jordan’s anxiety and increased his capacity for learning and thriving, showing that his 2 to 3 system was engaged. Removing Jordan from the compromised environment (school) and providing him with an enriched environment (home) tailored to his learning style increased his capacity for learning with Jordan’s 2 to 3 system connections returning coupled with his increased ability to manage the controllable incongruence related to one of his tutors.

Finally, Jordan’s overall anxiety reduced significantly enough where his need to light fires to calm himself became redundant over the term of the therapy, showing neuropsychotherapy and its brain based, bottom up approach to be a highly effective, efficient and flexible modality. In terms of Jordan’s social and emotional issues, I feel pairing a Theory of Mind approach with neuropsychotherapy over a longer term would have provided a more comprehensive model for Jordan to learn how to become more emotionally intelligent and socially adept. Pairing mindfulness with neuropsychotherapy provided excellent results given mindfulness directly acts upon the brain enhancing 2 to 3 system firing while neuropsychotherapy provides a scientific and easy to understand psychoeducational basis for the justification of mindfulness as a technique.

REFERENCES


INTEREST GROUPS...IDEAS ON HOLD FOR NOW

Last issue I mentioned I would write more about the IACN interest groups, however, despite many clinicians expressing preferences both before and at the last conference, and our best efforts to co-ordinate moving forward, the member responses to date have been insufficient to operationalise these at the present time. This is not to say this cannot happen in the future. It may be that we need to pay more attention to how this is structured and how our efforts are co-ordinated. At the moment however, the ideas are on hold for now. Please write to me at office@iacn.com.au if you have any burning ideas which you believe could assist with bringing the interest groups into reality and breathing renewed life into this project!

INITIAL NEUROPSYCHOTHERAPY GRADUATE CERTIFICATE – CHRISTIAN HERITAGE COLLEGE

Over the last few months it has been my great pleasure and privilege to be working with Prof Rossouw and the wonderful staff at the Christian Heritage College (CHC) in Carindale, Brisbane as the tutor for the initial unit of the newly developed Graduate Certificate in Neuropsychotherapy. The initial group of students from all over Australia, and even one student based in the UK, are all very capable clinicians and are all so enthusiastic about the course. For me this has highlighted the value of both distance learning and intensive face-to-face studies. Elsewhere in this issue Prof Rossouw has written more about the development of the course and a number of students have provided some very positive feedback already.

In particular, although technically challenging for many of us, the online Virtual Classes have been a controllably incongruent learning experience – in a safe and I hope enriched environment. I hope the students have all gained as much as I have from this online forum, which is becoming ever more popular for online tertiary distance learning platforms. The first essays have been marked and I can say that everyone has passed to date. And if the high quality of those essays is matched by the final essays, it is likely most students will be well set for their next units, next year.

I would like to commend Dean of Social Sciences at CHC, Stephen Beaumont, for his marvellous support and courage to be the first tertiary organisation to work so closely with Prof Rossouw to bring this Graduate Certificate into reality. I must also mention the excellent customer support provided by Information Technology Specialist Amy Emanuel and invaluable assistance from administrative staff Rossana Seminaro and Ann Crawford.

And finally, I am looking forward to the Certificate training in Hawaii with Prof Rossouw and a group of clinicians who couldn't resist combining learning with pleasure, in what will be a very relaxed and enjoyable three-and-a-half-day workshop in Honolulu. If I get the chance I will post a few photos in the next issue!

Until then – keep safe.

Warm regards

Jonathan
**Neuropsychotherapy**

Recent findings in neuroscience demonstrated the unique contribution of talking therapies to facilitate lasting changes in the brain. Neuropsychotherapy is the “language” used in the interaction between client and clinician in the process of restructuring the brain towards higher levels of functioning and well-being. It uses information from neuroscience to assist clients suffering from a wide range of biological, psychological and social challenges to apply strategies to shift unhelpful response patterns and activate patterns that enhance wellness – the shift from patterns of survival to patterns of thriving.

**About the Presenter**

**ADJ. PROF PIETER J. ROSSOUW**

MAPS MCCLP MQCA MIACN

Pieter is an Adjunct Professor in Brain-Based Education and research at Central Queensland University. He is also the Director of Mediros and The Neuropsychotherapy Institute – companies that focus on training and research in neuroscience and psychotherapy. To date over 20,000 professionals have attended Pieter’s trainings.

Pieter is a member of the Australian Psychological Society and the APS College of Clinical Psychologists. He was a professor in Clinical Psychology in South Africa and the Program Director of the MOC Program at the School of Psychology, University of Queensland (UQ). He also taught at universities in the USA, Holland, China, New Zealand and Canada. He was also the Clinical Director of the St John of God Health Services in Sydney. He is the current president of the International Association of Clinical Neuropsychotherapy.

He has published 10 scientific books and 80 articles and presented over 70 conference papers (many of them keynotes) at international conferences. Pieter’s recent books are: Neuropsychotherapy: Theoretical Underpinnings and Clinical Applications; BrainWise Leadership (with Connie Henson); Bullying: Taking Control (with Melisa Kaya) and The Predictive 6-Factor Resilience Scale (with Jurie Rossouw). He received the UQ Dean Faculty of Behavioural Sciences commendation for excellence in teaching and provides global leadership in Neuropsychotherapy.

Pieter is a member of the Global Association for Interpersonal Neurobiology Studies; The Australian Cognitive Neuroscience Society and on the Board of The Neuropsychotherapist. He serves on the editorial board of The International Journal of Neuropsychotherapy, The Journal of Psychology and Clinical Psychiatry and The Journal of Psychiatry and Neuropsychotherapy.

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**Certification Training 2018**

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21 Hours specialised training

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- **Brisbane**
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  RBW Hospital, Herston Rd, Brisbane

- **Melbourne**
  30 Oct – 2 Nov 2018
  Education Centre, Royal Melbourne Hospital, Grattan Street, Parkville

**One-day workshops 2018**

**Understanding Neurochemicals Practical Guide for Clinicians**

- **Brisbane**
  15 Nov 2018
  Clinical Skills Dev Centre (5th floor), RBW Hospital, Herston Rd, Brisbane

- **Melbourne**
  31 Aug 2018
  Education Centre, Royal Melbourne Hospital, Grattan Street, Parkville

- **Sydney**
  25 Sept 2018
  Portside Conference Centre (5th floor), 207 Kent Street, Sydney

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- Tel: 07 3217 7266
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**2nd International Conference of Neuropsychotherapy 2018**

23-25 May 2018 Catholic Leadership Conference Centre, East Melbourne

24 Continuing Professional Development Hours. Pre-conference workshops (1/2 day each – 3 CPD hours)

**21 May 2018**

- Treatment of Bulimia Nervosa and Binge Eating Disorder.
  A neuropsychotherapeutic perspective and practical treatment strategies.
  (with Dr Roger Mysliwiec) (PM)

**22 May 2018**

- The Neuroscience of Violence and Aggressive Behaviours
  (With A/Prof Pieter Rossouw) (AM)

- Wellness and Capacity Development – The Neuroscience of Resilience
  (with A/Prof Pieter Rossouw) (PM)

---

80+ Presentations (30+ short, interactive workshops)

**Focus streams:**

- Psychopathology
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International speakers

[www.neuroconference.net](http://www.neuroconference.net)
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Continuing Professional Development Hours 21 Hours specialised training

- **Auckland** 4-7 Sept 2018
  - Waipuna Conference Centre, Mt Wellington, Auckland NZ.
- **Brisbane** 11-14 Sept 2018
  - Clinical Skills Dev. Service Centre (5th floor), RBW Hospital, Herston Rd, Brisbane
- **Melbourne** 30 Oct – 2 Nov 2018
  - Education Centre, Royal Melbourne Hospital, Grattan Street, Parkville

**Pricing is in Australian dollars**
- Early Bird Rate (60 days prior): AUD $1,395
- Standard Rate: AUD $1,495
- Student Rate (copy of student card required): AUD $1,350
- Groups (4+ attendees per group, one payment): AUD $1,350

One-day workshops 2018
Understanding Neurochemicals Practical Guide for Clinicians

- **Brisbane** 15 Nov 2018
  - Clinical Sills Dev Centre (5th floor), RBW Hospital, Herston Rd, Brisbane
- **Melbourne** 31 Aug 2018
  - Education Centre, Royal Melbourne Hospital, Grattan Street, Parkville
- **Sydney** 25 Sept 2018
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  - 24 Continuing Professional Development Hours

  - **Melbourne** 23-25 May 2018
    - Pre-conference workshops 21 & 22 May 2018 (3 CPD Hours)

  - **1.** Treatment of Bulimia Nervosa & Binge Eating Disorder. A neuropsychotherapeutic perspective and practical treatment strategies. (Dr Roger Mysliwiec medical specialist, NZ) 21 May (PM)

  - **2.** The Neuroscience of Violence & Aggressive Behaviours (A/Prof Pieter Rossouw) 22 May (AM)

  - **3.** Wellness & Capacity Building - The Neuroscience of Resilience (A/Prof Pieter Rossouw) 22 May (PM)

  - Catholic Leadership Conference Centre, 576 Victoria Pde, East Melbourne, Australia

**Focus streams:**
- Psychopathology
- Education
- Sport
- Expressive therapies

**Pricing Conference**

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With A/Prof Pieter Rossouw - 4-7 September 2018

Neuropsychotherapy Training – Certificate of Practice
Prof Pieter J Rossouw - Workshop attendance – 21 hours (3½ days). Certificate of attendance provided for 21 CPD points

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Online registration at www.mediros.com.au

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Melbourne 23-25 May 2018
From Neuroscience Research to Applied Practice
www.neuroconference.net

- 21 May 2018, Pre-Conference skills-based Workshop (3.5 CPD)
  Treatment of Bulimia Nervosa & Binge Eating Disorder (½ day (pm) with Dr Roger Mysliwiec)

- 22 May 2018, Pre-Conference skills-based Workshops (3.5 CPD)
  The Neuroscience of Violence & Aggressive Behaviours (½ day (am) with Adj/Prof Pieter Rossouw)
  Wellness & Capacity Building - (½ day (pm) with Adj/Prof Pieter Rossouw)

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- Peer-to-peer networking and forum
- IACN Annual General Meeting

Applied Neuroscience Streams:
Psychopathology
Organisational Neuroscience
Expressive Therapies
Sport and Performance

36 Interactive Neuroscience Mini-Workshops:
Neuroscience in Organisational Settings
Expressive Therapies – Experiential
Neurobiology of Domestic Violence
Neurobiology of Resilience

KEYNOTE SPEAKERS

Pieter Rossouw
Adj/Prof Brain-Based Education, CQU
Director Mediros
President IACN
Brisbane, Australia

Roger Mysliwiec
Dr Psychosomatic Medicine
Auckland, New Zealand

Thedy Veliz
Marriage and Family Specialist, California, USA

Lisa Stevens
Sport Psychologist
Melbourne, Australia

Rita Princi
Clinical Psychologist
Adelaide, Australia

David Collins
Clinical Psychologist,
Director BRAiNgro
Melbourne, Australia
2nd International Conference of Neuropsychotherapy
Melbourne 2018

INFORMATION and Online registration available at www.neuroconference.net

2nd Int Conference of Neuropsychotherapy: 23-25 May 2018 – 3-day Conference: 24 CPD Points

Pre-Conference *Half Day Workshops – 3-hours each - 3 CPD Points each
*Bulimia Nervosa & Binge Eating Disorder - Dr Roger Mysliwiec – 21 May 2018 – Afternoon Session
*Neuroscience of Violence & Aggressive behaviours - Adj/Prof Pieter Rossouw – 22 May 2018 – Morning Session
*The Neuroscience of Resilience - Adj/Prof Pieter Rossouw – 22 May 2018 – Afternoon Session

PRICING IS IN AUSTRALIAN DOLLARS

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The 2nd International Conference of Neuropsychotherapy


VENUE: Catholic Leadership Centre – Melbourne, Australia

Main Entrance is located via 576 Victoria Parade, East Melbourne

INFORMATION ABOUT THE VENUE

ACCOMMODATION:
- There are also a limited number of accommodation units available onsite (all with en-suite facilities). This is available for separate booking through the Catholic Leadership Centre: Booking Enquiries: 61 (0)3 92005200 or clc@cem.edu.au – Contact Person – Jeremy Williams

LOCATION AND TRANSPORT:
The Centre is located on the corner of Victoria Parade & Hoddle Street, East Melbourne. Main Entrance is located via 576 Victoria Parade.

GETTING THERE:
The Catholic Leadership Centre (CLC) is located at 576 Victoria Parade, on the corner of Victoria Parade and Hoddle Street, East Melbourne. Enter via our Victoria Parade entrance, next to St John’s Church and follow the signs to our Reception area for assistance. The CLC is well served by public transport. There are also several public car park facilities located within walking distance.

TRAM:
Tram stop 18 (Victoria Parade) is directly opposite the CLC and can be accessed via tram number 109 (Box Hill – Port Melbourne) or 12 (Victoria Gardens – St Kilda).

TRAIN:
North Richmond Station (on the Epping/South Morang and Hurstbridge train lines) is a 200 metre walk to the CLC along Victoria Parade.

BUS:
The following buses stop within a few metres of the CLC:
246 Elsternwick–Clifton Hill/LaTrobe University
302 City to Box Hill/Doncaster via Belmore Road, Freeway
303 City to North Ringwood
305 City to The Pines SC via Andersons Creek Road
309 City to Donvale via Reynolds Road
313 Doncaster to City 315 Box Hill to City
318 Deep Creek to City
340 Latrobe University to City
905 City to The Pines SC via Templestowe
906 City to Warrandyte Bridge
907 City to Mitcham via Doncaster Road
908 City to The Pines via King Street
For further details visit http://ptv.vic.gov.au.

CAR:
There is limited street car parking available in the immediate vicinity of the CLC. There are some all-day parking spaces on Victoria Parade on the north side of the westbound lane. However, most of the street parking is limited to one or two hours. Public car parks within walking distance of the CLC include:
- Tribeca Car Park (166 Albert Street, East Melbourne)
- Wellington Street Car Park (at the southern end of Wellington Street)
- Robert Street Car Park (Robert Street, off Wellington Street).
One day workshop to become a Certified Resilience Coach

Gain access to a ground-breaking program based on neuroscience to assess and build resilience capacity. This training enables you to integrate automation into your practice to dramatically enhance your services and the difference you can make to the lives of your clients.

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Following this fast-paced and interactive workshop, you will be able to:

- Apply the **Predictive 6 Factor Resilience Scale** to quickly measure resilience
- Apply the **ResiCoach Resilience Development Course**
- Discuss the **neuroscience** of resilience
- Access an **online system** to manage participants, assess and provide training
- Have access to hard copy and online training materials and videos for resilience training
- Be registered as a **Certified Resilience Coach**

**UPCOMING WORKSHOPS**

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Register online at [rforce.com.au](http://rforce.com.au)

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Australasian Conference of Brain-Based Education

Melbourne Brain Centre – Royal Melbourne Hospital, Parkville

Melbourne 1,2 March 2018

Theory and Practice of Applied Brain-Based Pedagogy

World leaders in applied Educational Neuroscience present on the pedagogy of the brain and learning

Topics that will be presented are:

- The Neuroscience of learning and deep learning.
- Systems of learning in the brain – fear based learning and thriving learning.
- Trauma, the brain and education – trauma informed educator/school.
- Wellness and the brain – a practical tool for educators and schools (applied demonstrations from leading schools on brain-based education).
- The brain, learning and wellness – a neuroscientific whole-school tool to enhance wellness and learning (demonstrations from leading schools).
- Interactive learning with take home guidelines.

Pieter Rossouw
Prof Brain-Based Ed.
CQU, Director Mediros,
President IACN,
Director Institute for
Brain-Based Education,
Director BRAiNgro
Institute, Aus.

Rita Princi
Clinical Psychologist,
Director Institute for
Brain-Based
Education, IACN(Cert)
Clinical Neuro-
psychotherapist
Adelaide, Aus.

Robyn Gillies
Prof School of
Education,
University of Qld,
STEM Ed.
Specialist,
Brisbane, Aus.

Philip Grutzner
Principal, Carey
Grammar, Director
Independent
Schools, Vic. Aus.

Margot MacDougall
Principal, Hospital
School, Adelaide,
Aus.

David Collins
Clin. Psychologist,
Director BRAiNgro
Institute, Melbourne,
Aus.

Robert Rostolis
Principal, Diamond East
Primary School,
Victoria, Aus.

Gaynor Robson-Garth
Principal, Siena
College, Camberwell,
Victoria, Aus.

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KEYNOTE SPEAKERS
Australasian Conference of Brain-Based Education
Melbourne Brain Centre, 1,2 March 2018
INFORMATION and online registration available at www.ibbe.com.au

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Early Bird rate – (before 1 January 2018) $570
Standard rate $625
Group rate (4+ per group – one registration) $565

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441 Fullarton Road, Highgate
Adelaide, SA, 5063, Australia
Dr Dionne Shnider is a licensed psychologist and clinical neuropsychotherapy practitioner in private practice. She has worked as a psychologist within a variety of settings – including mental health, and occupational and vocational rehabilitation – both in public and private organisations. Dionne has a special interest in evidence-based psychological therapies, neuropsychotherapy, CBT, ACT and Solution Focused Therapy. She has worked in The Netherlands, USA and Australia.

Adj/Prof Pieter Rossouw is the Director of Mediros Clinical Solutions, The BRAiNGro Institute and The Neuropsychotherapy Institute. Pieter is an Adjunct Professor in Brain-based Education at Central Queensland University (CQU) and the President of The International Association of Clinical Neuropsychotherapy (IACN). Pieter has been in private practice for the past 30 years and focuses on research and training in Neuropsychotherapy.

Neuroscience Toolkit for Clinicians

Prof Pieter Rossouw and Dr Dionne Shnider have teamed up to create a Neuroscience Toolkit for Clinicians.

The Toolkit consists of:
- Clinician’s Manual (downloadable)
- USB with animations
- 5 worksheets (downloadable)

You can select any or all of the products to make up the Toolkit most suited to your clinical practice.

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