The Effectiveness of Autogenic Training for Occupational Health and Safety in High Risk Industries: Mining and Police in Australia

Since August, 2014 a parliamentary inquiry has begun into the mental health impact of miners in Western Australia after 24 workers, mostly FIFO (fly-in-fly-out), committed suicide over an 18 month period. Long working hours, non-family friendly rosters, separation from loved ones, geographical isolation, environmental hardship and boredom are but some of the many stressors contributing to the impaired psychological and physical functioning of workers in the mining industry. Poorly managed mental stress both in the workplace and at home whether a diagnosable mental disorder or not, detrimentally affects worker neuro-psychophysiological functioning which in turn can affect performance and safety in the workplace. In mining and policing in Australia, workers are exposed to high stake and high demand work environments and are

therefore particularly vulnerable to mind-body dysregulation.

Over the course of my work as a Psychologist with the NSW Police Force between 1994 and 2006 and as an Occupational Health and Safety (OH&S) researcher, writer and conference presenter in the mining industry more recently, I have found Autogenic Training to be an effective neuro-psychophysiological tool for improving the occupational health, general well-being, performance and safety of workers from these organisations. Autogenic Training as a workplace mental health intervention is particularly suitable for OH&S as it is equally effective for prevention and treatment of mental health problems by equipping workers with a skill set that enables them to build neuro-psychophysiological resilience by self-generating mind-body regulation for optimal health and performance. In this paper I will be discussing the suitability of Autogenic Training for occupational health

and safety in mining and policing as well as describing my approach to Autogenic Training delivered as a short term intensive therapy, and noting the outcomes achieved with the police clients I saw during this period.

Autogenic Training (AT) is an evidence-based technique that mobilizes the body's self-regulatory mechanisms to recover from neuro-psychophysiological dysregulation brought on by stress. Pioneered by German neuropsychiatrist and psychotherapist Johannes H Schultz and extended by physician and psychotherapist Wolfgang Luthe, AT has been used for over 70 years around the world as a treatment for a wide range of medical diseases and psychological ailments as well as for the purpose of general self-care and performance enhancement. Autogenic Training is the foundation for all other Autogenic methods developed by Luthe and is considered to be the most important and widely used Autogenic method.

The link between workplace stress in high-risk industries and the health and safety of workers is widely documented. In both the mining industry and policing in Australia there has been an increasing organisational focus over the past two decades in particular on how to address mental health and safety issues faced by their workforce. Research showing the correlation between mental health and work-place incidents and lost productivity due to absenteeism and presenteeism puts extra pressure on organisations to take workplace health and safety seriously. The Nixon arousal curve demonstrates the relationship between work pressure and performance. If people are under too much pressure at work there reaches a point where they suffer from over-load, start experiencing fatigue and irritability and ultimately become less effective in their work performance. If this continues unabated there is an increased risk of significant mind-body dysregulation leading to mental illness and serious medical problems such

as cardiovascular disease, heart attack, diabetes, stroke and even cancer. Ernest Rossi's research indicates that we have a Basic Rest-Activity Cycle (BRAC) where we can work actively for about 120 minutes but then need to rest for 20 minutes for the mind and body to repair and rejuvenate. If we continue to ignore this need to rest for example in the case of having to work long shifts with insufficient rest breaks then we are at risk of mind-body dysregulation that can affect safety in the workplace and increase the likelihood of workplace accidents. This is particularly pertinent in the mining industry where 12 to 14 hour shifts, 3 to 4 weeks on and 1 week off are not uncommon. Highly regulated and strict OH&S laws Australia-wide mean that organisations must provide a safe workplace for their employees or face serious legal consequences. Recent tightening of the laws too has meant that managers can be sued personally for failing to provide a safe work place.

The Black Dog Institute, a not for profit organisation considered by many academics and mental health practitioners to be a world leader in the diagnosis, treatment and prevention of mood disorders reports that:

- 1 in 5 people will suffer a mental illness in a given year in Australia
- mental illness is the third leading cause of non-fatal disease and injury in Australia
- depressive symptoms are more commonly experienced with workers who have jobs with high psychological demand, long work hours and low levels of social and environmental support.

The incidence of mental illness in rural and remote communities is even greater with Dr Jennifer Bowers, Director of the Australasian Centre for Rural and Remote Mental Health reporting that in the mining industry with a workforce of approximately 270,000 people, based on

statistics in rural and remote communities, there would be approximately 90,000 workers suffering from a mental illness. Furthermore, a report done on behalf of the NSW Minerals Council in 2012 estimated that mental illness is costing the mining industry and community around 2.6 billion dollars a year in lost productivity and accounts for 35 to 45% of sick days and approximately 18 days in lost productivity due to less than optimal productivity while at work.

This figure however is likely to be an underestimation of the true cost of stress to organisations. My research into the classification system of injuries for workers compensation in Australia (Type of Occurrence Classification System, 3rd Edition, Revision 1) indicates that the nature of the classification system under-reports the real prevalence and cost of psychological injury in the workplace. My research has also highlighted the tendency of some mining companies to 'manipulate' statistics on OH&S to fit in with

‘Key Performance Indicators’ for a given year thereby potentially affecting the amount of funding that the company allows for OH&S interventions (Gibbons; Demystifying Stress. 2012).The challenge for companies in high risk industries is not only to accurately assess the cost to the organisation of risk and harm in the workplace but also to identify the most appropriate interventions for minimising it.

The Police Force and mining companies alike, being aware of workforce vulnerabilities to the high risk nature of their work, attempt to minimise harm from workplace stressors by manipulating to some degree the ‘job-context’ and ‘job-content’ stressors that are under organisational control. This alone cannot completely safeguard their workforce from harm as it is impossible to eliminate stressors that are fundamental to the job that they are meant to do. The Police Force cannot for example eliminate the need of their police to face dangerous people and situations. Similarly mining

companies cannot eliminate the stressors of geographical isolation and extreme temperatures when the mining site is located in the middle of a desert nor are they likely to dramatically alter the long shifts that have been criticised for undermining worker well-being and safety due to productivity demands. Even minimising work related stressors cannot completely safeguard workers from risk and harm as workers vary in their personalities, perceptions, coping skills and 'baseline' neuro-psychophysiological functioning, therefore an aggravating workplace stressor to one worker may be considered normal and non-stressful to another. A study in risk factors for post trauma reactions in police officers by Hodgins, Creamer and Bell, 2001 found that pre-existing conditions such as personality style, gender and trait dissociation have been linked to poor psychological health in junior police officers.

In a review of the effectiveness of workplace counselling, John McLeod from the School of Social and Health Sciences at the University Of Abertay, Scotland found that workplace counselling is ’generally effective in alleviating psychological problems, has a significant impact on sickness absence and has a moderate effect on attitudes to work’. Focusing on workplace counselling alone has its limitations however as it tends to focus on treating problems rather than preventing them in the first place. When organisations are selecting OH&S interventions they should be equally focusing on programmes that assist in building neuro-psychophysiological resilience in the working ‘healthy’. It does not have to be a diagnosable mental illness for stress to negatively impact upon workplace performance. Day-to-day stressors from all sources, not just work, can undermine the well-being and performance of even the most innately resilient worker. In fact it has been reported that workers have a 41% greater

likelihood of having an accident if they are suffering from mental distress with distress being the stress response when it becomes maladaptive and inappropriate (unknown).

In Australia, organisations have been increasingly embracing Employee Assistance Programmes (predominantly EAP Counselling) where employees are offered the opportunity to seek counselling confidentially for any issues up to a maximum number of sessions per year. It has been reported to me by OH&S managers in the mining industry that the uptake of EAP Counselling by miners has been 'disappointing'. There are also significant numbers of police who are reluctant to utilise the EAP Counselling service even though there has been an improvement in uptake over the years probably as a result of the gradual breaking down of the stigma attached to asking for help and the increase in the promotion of EAP Counselling.

During the course of my work with both the Police and the mining industry it is undeniable that both police and miners alike are faced with significant workplace challenges of a highly stressful nature. Given the reluctance of some workers to utilise EAP Counselling services it is even more important that the Police and mining companies target evidence-based mental health programmes that not only treat problems but also focus on preventing worker mind-body dysregulation from the effects of stress in the first place.

AT is an effective mental health intervention for both preventing and treating mind-body dysregulation from the effects of stress. As we can see from Nixon and Rossi's research, persistent exposure to stressors can lead to both physical and psychological impairment as well as impaired performance. By teaching police and miners how to self-direct and self-regulate their autonomic nervous system they learn to 'switch on' or self-generate the relaxation

response ‘at will’. When there is a stressor, the stress response is activated via the sympathetic nervous system and when stress is prolonged the mind and body becomes sympathetic dominant creating an unstable situation leading to mind-body dysregulation. We know from neuroscience that if stress is chronic and high levels of cortisol are persistently released then there is a death of neurones in the hippocampus and this can negatively affect the brains ability to process new memories as well as lead to Depression (Roussouw, P). When the subcortical fight, flight and freeze areas of the brain are engaged the frontal executive functioning areas of the brain are disengaged causing the dysregulation of decision making, judgement, planning, moral reasoning and sense of self. Overtime chronic stress can cause anxiety, sleep disturbance, cognitive difficulties such as problems with concentration and decision making, emotional disturbance such as irritability and diminished enjoyment as well as

behavioural difficulties such as problems with anger, violence, obesity and substance abuse. With AT, by learning to turn on the relaxation response and bring the mind and body back into parasympathetic mode there is a neuro-psychophysiological shift towards mind-body balance. Immune function is improved, heart rate, blood pressure, bodily metabolism and the load on organs is reduced and inter-hemispheric brain concordance is achieved eliciting improved mental functioning overall.

Encouragingly, momentum into AT research continues to gather pace at prestigious academic establishments around the world and numerous studies highlight the effectiveness of AT in mind-body regulation. Yurdakul, Holttum and Bowden found that AT 'leads to self- induced calmness in mind and body and can lead to clearer thinking about problems and new insights.' Bowden, Lorenc and Robinson found that AT 'can improve sleep patterns in participants with a wide range of health conditions and may reduce

depression and anxiety.' Whilst there have been numerous research studies on the health and well-being and to a lesser extent the performance benefits of AT there has not been enough emphasis on researching the benefits of AT in the context of occupational health and safety in high risk industries. Nevertheless, for the studies that have been done in this area impressive results of AT's efficacy have been achieved. In a study on the effects of AT on cardiac autonomic nervous activity in high-risk fire service workers for example, it was found that AT was effective at reducing psychological issues secondary to PTSD and increasing parasympathetic nervous activity (Mitani, Fujita, Sakamoto & Shirakawa; 2006). The National Aeronautics and Space Administration (NASA) conducted research that revealed Dolphin Helicopter and Hercules Aircraft Pilots made less flying mistakes during emergency flying conditions when they learnt AT exercises using biofeedback (Kellar, Folen, Cowings, Toscano & Hisert; 2001). Other research into AT

by NASA's research arm the AMES Research Centre indicated that AT with Biofeedback across various missions was effective at reducing physiological arousal, as a treatment for motion sickness, at improving psychomotor performance and crew co-ordination and at replacing pharmacological methods for a variety of disorders and without the side effects of medication.

Autogenic Training for NSW Police 1994-2006

Without exception, police face significant stressors due to the high stake, high risk nature of their working environment. The Bureau of Crime Statistics and Research (BOCSAR) reported that from January 2012 to December 2013 assaults on NSW Police had 'dramatically' increased. The NSW Police Association reported that in 2014 the rate of assaults on police increased by 18.1%. The Queensland Police Employee Assistance Service reported that Queensland Police will experience on average, nine critical incidents in a 12 month period. A critical incident as

defined by Queensland Police means that they have ‘direct personal experience of threatened death, serious injury or other threat to their physical integrity’ or have witnessed an event that ‘involves death, serious injury or threat to the physical integrity of another member of the service’. Providers of EAP Counselling to NSW Police Force have reported a high incidence of Depression, Post-Traumatic Stress Disorder, Acute Stress Disorder and other Anxiety Disorders in police clients as well as other problems typically associated with high levels of stress such as insomnia, poor concentration, fatigue, irritability, reflux, migraine and heart palpitations.

I first saw police clients as a Psychologist (Clinical) in private practice privately through doctor, lawyer and NSW Police Association referrals as well as word of mouth recommendations from fellow police officers. Sessions were either being funded by the NSW Police Association, the NSW Police Force or self-funded by the client. Clients

who chose to self-fund therapy often did so because of concerns about confidentiality born from a lack of trust in the NSW Police. Some clients were ‘fit for duty’. That is, they were still working although struggling cognitively and emotionally. Other clients were classified as either permanently or temporarily ‘not fit for duty’. In other words they had sustained a work related psychological injury that impacted upon their ability to work. The remaining clients were placed in an ‘in-between’ category where they were fit to work but in a restricted capacity. For example, police clients diagnosed with a Depressive Illness and who would normally carry firearms in the course of duty often had their guns removed and were given lighter duties until fit for full duty again. The direct focus of therapy for these clients was to work intensively to maximise psychological therapeutic outcomes with the indirect benefit being a speedy return to work where appropriate.

While most new police recruits today are tertiary educated with increasing numbers of females joining the force the police clients I saw were mostly male without tertiary education. Many had old fashioned ideas about masculinity. They felt it was a sign of weakness if a man 'couldn't cope' or asked for help. Others identified a 'macho' workplace culture and feared being ostracised and denied promotion if it became known that they were struggling psychologically. As a result there was a tendency for police clients to push themselves to the limit and suffer in silence in the workplace in order to save face. There was a tendency to do this until coping in silence was no longer an option.

The majority of police clients presented with a mental illness most commonly Depressive and Anxiety Disorders such as Panic Disorder, Phobia, Acute Stress Disorder and Post-traumatic Stress Disorder, ranging in severity from very mild to severe. The initial stated reason for

counselling was general such as ‘I can’t sleep’, ‘I’m having problems with my wife’, ‘I feel down’, ‘I can’t relax’, ‘I’m drinking too much’, I get angry a lot’, ‘I’m finding it hard to make decisions’ and ‘I don’t want to go to work’ or a description about a work problem that they identified was causing them to feel ‘stressed and unhappy’. Common workplace stressors reported by clients were ‘dangerous people and situations, critical incidents and other crime, death on job, breaking bad news, dealing with others’ grief, shift work and public animosity’. The most common job context stressors were ‘an unfair internal complaints system, a promotions system that rewarded education over experience, ‘spying’ on police by Police Internal Affairs such as using bugging devises on personal phones, a culture of using junior police officers as scape goats in Royal Commissions and male colleagues discriminating against and bullying their female colleagues’.

The duration of therapy varied for each client I saw and depended on funding arrangements and severity of symptoms. The most short-term clients were Workshop and EAP clients suffering from non-clinical and mild clinical impairment. For these clients, sessions could not be extended and I was restricted to 4 or 5 x 50 to 60 minute sessions. Workshop clients ranged from those learning AT in half a day to the longer weekend workshops. EAP clients who were diagnosed as suffering from a mental illness were then re-assessed as to whether the mental illness was work related. If so, and it was usually the case, new funding arrangements allowed for therapy of a longer duration.

Regardless of the duration of therapy AT was a therapeutic tool of choice due not only to its effectiveness in combating the distress response but also because of its prescriptive client-directed nature which equips clients with the skill to self-generate the parasympathetic response when needed, independently of the therapist. In addition to this, AT is

uniquely suited to all client demographics. It is suitable for clients who are uncomfortable with talking about their emotional feelings, who are poor at self-reflection (the potential for self-reflection is a basic requirement necessary for the effectiveness of Cognitive Behavioural Therapy), who respond better to a therapy which appeals to logic and is overtly scientifically based and for those who have a preference for a clear set of prescriptive 'rules' to follow with in-built feedback mechanisms that act as a guide and motivator for the client. These characteristics as a package arguably sets Autogenic Training apart from all other evidence-based therapies and makes Autogenic Training particularly suitable as a front line mental health and performance intervention in the occupational health and safety of police and miners alike.

Depending on the duration of therapy, the nature and degree of impairment and the individual characteristics of the client, I added other therapeutic techniques. For

example, with clients suffering from Post-traumatic Stress Disorder I used a combination of techniques such as incorporating other Autogenic methods and combining AT with other therapies such as Cognitive Behavioural Therapy (Autogenic Cognitive Behavioural Therapy ©) and Eye Movement Desensitisation Reprocessing. Despite combining AT with other techniques it was still largely possible to determine the effectiveness of AT as distinct from the other techniques due to the Autogenic feedback/communication channels where clients learn through experience how to interpret the state of functioning of their sympathetic and parasympathetic nervous system, how to make a connection between that and the problems they may be having cognitively, emotionally, behaviourally or physiologically and how to self-regulate neuro-psychophysiological processes through the AT exercises.

For each client I conducted psychological and well-being assessments including an assessment of workplace stressors

using questionnaires as well as structured and unstructured interviews before beginning the therapy and at the conclusion of therapy in order to make a diagnosis and to assess if there were positive shifts in psychological functioning. In addition to this I taught clients the basics about stress, what it is, what causes it, how it manifests itself in the mind and body and how AT turns down the stress response and switches on the relaxation response. Nowadays, because of the scientific revolution in our understanding of the role that neuro-science plays in health and performance, I also talk about the role of the brain in how we function and its potential for change. This basic education is empowering for clients as it reduces self-condemnation, enhances client understanding of the interrelationship of their own mind and body and increases client optimism about AT because they can rationally understand the significance of each of the Autogenic mental exercises and the benefits. Clients were also taught

to do a ‘Body Stress Scan’ and rate the degree of tension experienced in different parts of their body from 0 to 10 on a ‘Stress Checklist’ before and after each Standard Exercise or series of Standard Exercises. This was a useful monitoring device for the both the client and myself and was also a client motivator as it indicated to the client that their Autogenic exercises were making a real and positive change to their neuro-psychophysiological/mind-body state with the levels of tension around their body significantly reducing even after only one Standard Exercise.

Another useful monitoring device for clients was John Gibbons’ introductory “Hand, heavy”, “Hand, warm” and then “Hand, heavy and warm exercise which I do with all clients before beginning Schultz’ first Standard Exercise. John Gibbons, Psychologist and pioneer of Autogenic Therapy in Australia, taught me this introductory exercise when I was studying to become an Autogenic Therapist. The communication or neural network between the brain

and the hands and fingers is more highly developed than between the brain and the arms so the hands and fingers provide particularly powerful and useful bio-feedback signals to the client such as the hands turning bright pink (increased blood flow) and blotchy (new blood distribution) and feeling swollen, warm and tingly especially in the centre of the palm of the hand and on the fingertips. The 'Hands, heavy and warm' introductory exercise tends to stimulate a more keenly felt and immediate parasympathetic response than the 'Arms, heavy and warm' exercise by capitalising on the more established and highly sensitive communication network between the brain and hands. For every client the experience of making mental contact with their hand and fingers and noticing sensory changes which are heightened further by their own repeated sub-vocalisation of the formula, is profound and exciting as they realise for the first time in their lives that they have the ability to self-direct and self-regulate the mind-body

processes underpinning their neuro-psychophysiological functioning. This introductory exercise is of particular importance when delivering Autogenic Training in a workshop format as the time restraints demand an approach that will increase the likelihood of all attendees being able to experience and identify parasympathetic responses during the course of the workshop.

Johannes Schultz advocated a prescriptive approach to AT but allowed for flexibility based on the needs and individual characteristics of the client. In the literature on AT it is considered ideal for clients in the learning phase to be given one Standard Exercise at a time and approximately at least one week apart as long as the client experiences the sensations as expected for each exercise such as heavy and warmth in the arms and legs. For short term clients including AT workshop participants however I needed to modify the usual timing allocated to training in a way that would hopefully not compromise positive

therapeutic outcomes and that would still equip the clients with the know-how, independence and motivation to continue the self-practise of AT as a lifestyle choice. There are disadvantages to this short term intensive approach however and follow ups are advised to assist and motivate clients to maintain a regular at-home self-practise regimen, a necessity if clients are to attain on-going relaxation fitness by making the neurobiological shift from sympathetic dominance to parasympathetic dominance.

In order to ‘make up’ for the possible shortcomings of the more intensive approach, I gave each short-term client a recording of the AT exercises at the conclusion of training. Clients were given clear at-home practise instructions, encouraged to take general notes about their AT experiences and training symptoms in the AT Notebook provided and time was allocated in advance for a monthly follow-up call or email over three months to monitor their progress. In addition to this, encouragement was given to

the clients to contact me should they experience any kind of training obstacles or concerns such as particularly ‘uncomfortable’ Autogenic Discharges that they were struggling to ‘passively accept’. Interestingly it was very rare for clients to inappropriately take advantage of this policy of ‘open contact’ and for those few clients that utilised the open contact I received positive feedback that it had helped them persevere with their AT practice. The degree of success achieved with clients’ AT practice compliance with this intensive approach seemed to have just as much to do with the strength of my relationship with the clients as well as the follow-up regimen that was applied. The importance of the client–therapist relationship in enhancing therapeutic outcomes should never be underestimated, even when the Autogenic Training is condensed to fit in with time restraints.

Depending on the client and with permission from the outset of our sessions together, I contacted clients 3 months

after the cessation of our face to face sessions to obtain feedback about their AT experience. Unfortunately due to the number of years that have passed since seeing the police clients and the passing of the 7 year legal period where client notes must be kept, I am unable to provide quantitative data regarding the therapeutic outcomes of these AT sessions. I can say from memory however and from letters of appreciation from clients that overwhelmingly there were positive shifts in psychological functioning and that most police clients without severe mental disturbance were able to return to partial or full fitness for duty in a relatively short amount of time. A common experience of my police clients and of clients of AT in general, is to notice very early on in training far-reaching improvements in functioning including improvement in sleep quality, energy levels, coping, and mental acuity. This includes the ability to think about problems more rationally and in a more helpful way as well

as the ability to experience an enhanced ability to feel joy and a sense of oneness with people and their environment. For those with severe disturbance such as those who were diagnosed for the first time as suffering from severe Post-Traumatic Stress Disorder but with an onset many years earlier, AT helped take the edge off disturbing symptomatology and improved the clients functioning overall even though it may have not resulted in a return to work in the Police Force.

Final Comments

In conclusion, based on my experience working with police and in the mining industry and from the academic research available documenting the pervasive benefits of Autogenic Training, I would highly recommend Autogenic Training to organisations looking for an evidence-based intervention to improve occupational health and safety. With Autogenic Training workers are better able to identify the warning signs of impairment in their own functioning and are then

able to self-generate a neuro-psychophysiological shift from dysregulation to balance when challenged by significant home or work place stressors, enabling them to perform better at work thereby reducing the risk of causing a workplace accident. As we have seen, it is even more important for organisations whose workers face high demand and high risk stressors to implement appropriate evidence-based mental health interventions in the workplace.

The mining industry in particular needs to put into action their policy of ‘zero harm’ in the workplace using mental health and resilience building interventions such as Autogenic Training. At present there is more rhetoric than action with bureaucratic red tape immobilising implementation. For this reason I recommend that Autogenic Therapists and researchers form alliances with academic institutions and industry to encourage the implementation of pilot studies examining the benefits of

Autogenic Training in the workplace. Given that OH&S interventions have a greater chance of success when they have the active support and involvement from all levels of management I would advise that one condition of any pilot study is that any worker participating in the pilot study is made aware of the personal support and involvement from the upper levels of management.

On a final note, Autogenic Therapists are aware that our functional harmony is determined by our neurobiological and psychophysiological potential to adapt to environmental demands. Autogenic Therapists are also aware that our potential for adaptation has its' limits and there reaches a point where environmental demands are so hazardous that the only option left is the avoidance of those demands. For some workers therefore, if the working environment is too hazardous, the only option is to avoid it. This avoidance may come in the form of taking holidays, going on sick leave, not turning up to work, turning up to

work in a detached, numb, depersonalised and non-alert state, quitting their job, going on workers compensation for a psychological or physical injury or in extreme circumstances, taking one's own life. Organisations must understand that while Autogenic Training can assist workers to cope better, thereby enhancing their potential for adaptation, it cannot protect workers, nor can any other therapy, from the full force of extreme hazards such as the dangerous work rosters in the mining industry. Productivity demands aside, the Australian Government and mining industry must address the hazardous shifts that miners are expected to work and until they do they can be accused of paying lip service to the importance of occupational health and safety.

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