

EUROPE

Ensuring Unity and Respect as Outcomes for People of Europe



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Analysis of the status quo and of the strategic perspectives with regard to the Quiet Time method and its effects in tackling radicalization

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Abstract	This deliverable describes previous research on the Quiet Time / Transcendental Meditation Programme and the strategic perspectives with regard to its application and its effects in tackling radicalisation
Keywords	Quiet Time, Transcendental Meditation, research, strategic perspectives



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Introduction

Many authors have tried to identify risk factors associated with radicalisation and terrorist activity but there seems to be no general agreement as to how to identify potential terrorists before they act. Repeated attempts to find “terrorist characteristics” by researchers have failed. An interim report prepared by the European Commission’s Expert Group on Violent Radicalisation (2018, p10) reported that, “Although a number of contributing factors may be singled out as facilitators for the emergence of radicalisation processes leading to terrorism, it is impossible to identify one single root cause”. Borum (2015) concludes, “. . . a robust empirical foundation does not yet exist for understanding the risk of terrorism or involvement in violent extremist activity”.

A bulletin issued by the United States Federal Bureau of Investigation (FBI) (2018) entitled “Don’t Be a Puppet: Pull Back the Curtain on Violent Extremism” does offer an additional insight, “No single reason explains why people become violent extremists, but . . . those who are emotionally upset *after a stressful event* may be vulnerable to recruitment” (italics added for emphasis). This information is not very helpful in identifying those at risk of radicalisation because many people endure stressful experiences and negative emotions of anger, fear, and hostility from time to time but only a few individuals actually become radicalised and commit atrocities.

Therefore, rather than trying to identify individuals who may become radicalised, the EUROPE project seeks to demonstrate the practicality of preventing radicalisation by “inoculating” the youth of society against physiological and emotional damage caused by an overload of stress, without having to take into account the source of the stress.

Stressful situations can initiate the “fight or flight” response, which is characterized by physiological arousal and emotional upset, such as anger or fear. In some situations, this primitive response may be completely appropriate, and even life-preserving, such as preparing to fight or flee from an unexpected attack. However, continual exposure to stressful situations, such as domestic violence, rejection, bullying, social injustice, humiliation, or substance abuse, may be a precursor to stress-related behaviour including violence (Lerner, Gonzalez, Small & Fischhoff, 2003).

Stress is particularly damaging to the brain and over time can lead to “functional holes” particularly in the frontal cortex—the higher brain area that controls emotions and impulsive behaviour. According to Dr. Daniel Amen, “Patients with a compromised prefrontal cortex are frequently unable to regulate aggressive impulses and are at higher risk for exhibiting violent activity than other patients” (Amen et al., 2011). Wellman at Indiana University says, “We now know that the neurons in the prefrontal cortex are changing as a result of stress . . . Repeated exposure to stress can result in longer term damage to the brain's frontal lobe” (Piurek, 2008). This frontal lobe damage could lead to a situation where the

brain is damaged so badly that the individual becomes at risk for terrorism, “without the human emotions of pity or remorse” (O’Balance, 1979). Therefore, the key to preventing terrorism could lie in promoting the development of the prefrontal cortex, the higher executive area of the brain, thereby strengthening its role as the centre for ethical thinking, moral reasoning, emotional stability, and control of impulsive aggressive behaviour.

In the same sense that it would not be practical for a gardener to try to identify and modify the causes of drought, such as global warming, El Niño, etc., over which he or she has no control, the practical gardener simply applies the solution, which is to water the root. In a similar way, the EUROPE project does not try to identify and modify specific sources of stress that may lead to antisocial behaviour. Rather, the EUROPE project takes a practical approach by applying the Quiet Time/Transcendental Meditation (QT/TM) programme, which has been shown by extensive research to enliven coherent activity in the prefrontal cortex, decrease levels of stress and anxiety, and reduce anger and hostility.

The EUROPE project can be regarded as a school-wide intervention to help address the root cause of anti-social behaviour by strengthening the neurophysiology of everyone in the school community, thereby making them less susceptible to damage from stressful experiences.

Preventing violent radicalisation

Since the emotions of anxiety, anger, fear, and hostility associated with social exclusion and radicalisation are all states of mind dependent on the functioning of the neurophysiology, a simple, natural, mental technique that has been shown to integrate the functioning of the neurophysiology, reduce stress and anxiety, and have a positive impact on emotions and behaviour, may be effective in increasing social inclusion and reducing the risk of radicalisation.

Qualities that the QT/TM programme has been found to develop include, integrated brain functioning, lower anxiety, improved self-concept, higher moral development, greater tolerance and appreciation of others, more optimistic thinking, better relationship skills, higher emotional intelligence, broad empathy between oneself and others, and enhanced leadership skills. When taken together these qualities are those associated with individuals who will be more likely to engage in prosocial behaviour rather than antisocial behaviour. This argument is supported by research showing that antisocial behaviour decreases in schools and prisons where the QT/TM programme has been implemented.

Fostering Inclusive Education

The QT/TM programme consists of adding a few minutes at the beginning and at the end of the school or working day when participants have the opportunity to practice the Transcendental Meditation technique. Extensive research studies report an overall positive impact on school environments through: decreasing stress

and anxiety in both teachers and students; increasing creativity and intelligence of students; improving academic performance; increasing tolerance and resilience; lowering levels of anger and hostility; and decreasing the incidence of violence. These effects have been reported across a variety of social, religious, and ethnic groups, including at-risk students from minority ethnic backgrounds, those with lower academic achievement, and those from financially challenged backgrounds.

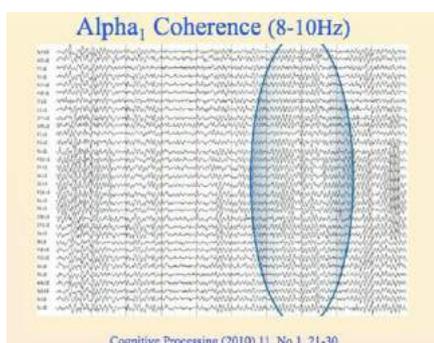
Because the Transcendental Meditation technique is easily learnt by anyone, irrespective of cultural tradition, religion, disability, or academic ability, all students, teachers, and parents in a school or community have equal opportunity to participate in the program. Hence all stakeholders can benefit from increased integration of brain functioning and improved social skills that result from that. Furthermore, the morning and afternoon meditations are held in a group setting either school-wide in an assembly hall or in individual classrooms. Parents are warmly invited to join these group meditation sessions. This coming together of the whole school community twice a day for a common purpose fosters a family atmosphere that adds to the harmony and coherence within the community.

Here we consider the relevance of this research to support achieving the goals of the EUROPE project to prevent radicalisation and promote social inclusion.

Fostering mutual understanding and respect

Increased Integration of Brain Functioning

There is a growing body of research on Transcendental Meditation reporting increased integration of brain functioning and its effectiveness as a stress-coping mechanism (Travis, 2014). During the practice of the Transcendental Meditation, global EEG coherence increases at the same time as the body experiences a state of deep physiological rest and relaxation. This unique state of “restful alertness” has been described as a fourth major state of human consciousness, distinguishable from waking, sleeping, or dreaming (Wallace, 1970).



Randomized control studies (Travis, Haaga, Hagelin, Tanner, Arenander, et al., 2010) have reported “global alpha bursts across all brain areas during Transcendental Meditation practice”, with EEG coherence increasing, particularly in the prefrontal cortex, the region associated with higher human values of moral and ethical thinking. After a few months, higher scores outside of meditation have been reported on a Brain Integration Scale, comprising

EEG broadband frontal coherence, power ratios, and preparatory brain responses (effect size .99, $p < .001$) (Travis et al., 2009).

Since the frontal cortex controls the "executive functions" of the brain, including judgment, decision making, planning, ability to consider future consequences of one's actions, impulse control, management of aggression, emotional regulation, self-regulation, reasoning, and social skills, development of the coherent function-

ing of the frontal cortex could be important in the development of these higher functions that maybe deficient in those who become radicalised. Indeed, compromise of the pre-frontal cortex is associated with a wide range of physical and mental conditions associated with social inclusion (Davey, Breakspear, Pujol & Harrison, 2017; Koenigs et al., 2007).

Higher brain integration is associated with highly successful people and with leadership skills

Higher Brain Integration Scale scores are characteristic of highly successful people in leadership positions in a variety of professions, such as top-level managers, who display significantly higher brain integration than middle level managers ($p < .01$) (Harung, Travis, Blank & Heaton, 2009). In a study of project development engineers, greater brain integration was associated with higher mental adaptability and speed of processing, along with higher moral reasoning and a feeling of being in control (Travis & Lagrosen, 2014).

High brain integration scores are also characteristic of successful police officers who display greater resilience to the toxic effects of the stress of police work (Charles, Travis & Smith, 2014).

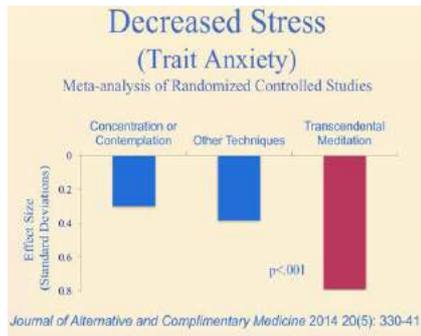
Brain integration and EEG coherence increase over time

If higher brain integration is associated with leadership skills and greater success in life, can brain integration be developed to higher levels over time? Long-term practitioners of Transcendental Meditation been shown to have significantly higher brain integration and more efficient brain processing than short-term practitioners ($p < .001$) (Travis, Tecce, Arenander & Wallace, 2002). This finding provides a possible explanation as to why leadership skills and efficiency at work develop with the practice of Transcendental Meditation.

Employees at a food sales company, who learned the Transcendental Meditation technique, showed a significant increase in a composite scale of leadership behaviour after four months than those in the control group (McCollum, 1999). And a study of executives and workers in the automotive industry found that after three months of regular practice of Transcendental Meditation participants showed increased effectiveness, in comparison to controls from the same work sites (Alexander et al., 1993).

Since all cognitive and social skills ultimately depend upon the quality of brain function, the ability of Transcendental Meditation to develop greater brain integration, which is characteristic of the most successful people in society, and at the same time improve resilience to stress, provides policy makers with an innovative approach to improve social behaviour, develop leadership skills, and enhance academic performance, even in disadvantaged and at-risk populations.

Decreased stress, anxiety, and trauma



During the practice of Transcendental Meditation, “the active mind settles down to a state of silent inner wakefulness; transcending the activity of conscious thought to experience consciousness itself” (Travis & Pearson, 2000). This state of “restful alertness”, which is physiologically opposite to the stress response, is reflected by increased alertness and decreased metabolism, including heart rate and respiration rate (Jevning, Wallace & Beidebach, 1992)

with reduced biochemical markers of stress, such as cortisol ($p < .01$) (Jevning, Wilson & Davidson, 1978). The Transcendental Meditation technique appears to be unique in its ability to significantly reduce stress and anxiety and stress-related conditions. For example, the American Heart Association has issued a scientific statement in which it reports that for the stress-related condition of hypertension, “TM may be considered in clinical practice to lower BP . . . other meditation techniques are not recommended in clinical practice to lower BP at this time (Brook et al., 2013).

Several studies have shown significant reductions of trait anxiety in both adult and student populations, which are unique to Transcendental Meditation. A Meta-Analysis at Stanford University (Eppley, Abrams & Shear, 1989) found decreased trait anxiety through the Transcendental Meditation technique compared to other meditation and relaxation techniques. This meta-analysis of 146 independent outcomes, compared all techniques that had measured for trait anxiety. Statistical analysis revealed that the Transcendental Meditation programme had more than twice the effect size (.77) ($p < .001$) on reducing trait anxiety than any of the other meditation or relaxation techniques, none of which scored better than placebo.

A meta-analysis of randomized control trials (Orme-Johnson & Barnes, 2014) identified 14 research papers on Transcendental Meditation that addressed trait anxiety. In the studies where the controls received an active alternative treatment, the TM group reduced anxiety significantly more than the active controls ($p < .000001$). Compared with controls receiving treatment as usual (wait list or attention controls), the reduction in anxiety was even more pronounced ($p = 1.37E-10$). Studies using repeated measures showed substantial reductions in the first 2 weeks and sustained effects continuing after 3 years.

In addition, reductions in depression ($p < .01$) and psychological stress ($p < .01$) have been reported in racial and minority students (Barnes, Bauza & Treiber, 2003). A randomized control trial of school teachers found that after 4 months of Transcendental Meditation practice, the teachers showed significantly lower levels of perceived stress ($p < .001$), depression ($p < .02$), and burnout ($p < .02$), compared to controls (Elder, Nidich, Moriarty & Nidich, 2014).

Of particular interest to the EUROPE project are studies showing significant improvements in symptoms of traumatic stress (PTSD). “Mental health professionals have long recognized that trauma and PTSD increase the risk of aggression” (Tull,

2018). Symptoms of PTSD are often found in children and adults who have suffered from the traumas involved in becoming a refugee. Studies of Congolese refugees found that after 10 days of TM practice their PTSD symptoms decreased and after 30 days symptoms had decreased to a non-symptomatic level in contrast to control subjects whose symptoms increased (Rees, Travis, Chapiro & Chant, 2013, 2014).

Vietnam veterans who were suffering from post-traumatic stress disorder and were having difficulty readjusting to civilian life who learned the Transcendental Meditation programme showed significant reductions in stress disorder ($p < .05$), emotional numbness ($p < .05$), anxiety ($p < .005$), depression ($p < .05$), insomnia ($p < .001$), family problems ($p < .05$), and alcohol consumption ($p < .005$) in comparison to those receiving psychotherapy (Brooks & Scarano, 1985). These findings of reduced PTSD symptoms together with reduced alcohol consumption are important in the context of the EUROPE project since co-occurrence of PTSD together with alcohol misuse has been associated with dramatically increased odds of violent behaviour perpetrated by veterans (Elbogen et al., 2014).

A study on United States veterans suffering from post-traumatic stress disorder reported significant improvements on the Clinician Administered PTSD scale (CAPS) ($p = .02$) (Rosenthal, Grosswald, Ross & Rosenthal, 2011). A study also reported reduced use of psychotropic medication in PTSD sufferers who had learned the Transcendental Meditation technique (Barnes, Monto, Williams & Rigg, 2016). Barnes (2018) argues that since conventional methods of treating PTSD have significant limitations, non-conventional approaches, such as Transcendental Meditation should be given greater consideration.

Several recent studies have supported these earlier findings. Bandy et al. (2019) conducted a controlled study on South African college students suffering from clinically diagnosed PTSD ($N = 68$). 34 of the students were instructed in the Transcendental Meditation technique and compared to the other 34 students who were given the opportunity to learn the technique after the 105-day study was completed. Multivariate analysis of covariance (MANCOVA) of PCL-C scores showed a highly significant reduction of PTSD symptoms in the TM group compared to the delayed start group after 15, 60, and 105 days ($p < .0001$ for all three measures). Data for the Beck Depression Inventory (BDI) were similarly analyzed by means of a MANCOVA. After 60 and 105 days, depression symptoms were significantly reduced in the TM group compared to controls ($p < .0001$ for both measures).

Herron and Rees (2018) published an uncontrolled pilot study of 46 military veterans who initially scored above the threshold for preliminary diagnosis of PTSD on the PTSD Checklist Civilian (PCL-5) scale. 1 month following instruction in Transcendental Meditation their symptoms of PTSD had significantly decreased (effect size: -1.93 ; $p < 0.0001$) and remained significantly lower at the 90-day posttest (effect size: -1.82 ; $p < 0.0001$).

Kang et al. (2018) report similar findings in an 8-week pilot study conducted on 29 military veterans with PTSD (20.7% female). After 9 weeks and 17 weeks following instruction in Transcendental Meditation there were significant reductions in PTSD symptoms as measured on the PCL scale (effect size $-.92$; $p < .001$ for

both times) and also on the Clinician Administered PTSD Scale (CAPS) (effect size $-.72$; $p < .01$ and $-.96$; $p < .001$).

In a recent RCT funded by the United States Department of Defense, Nidich et al. (2018) studied 203 veterans diagnosed with PTSD, comparing Transcendental Meditation (TM) (N=68) with prolonged exposure therapy (PE) (N=68) and health education (HE) (N=67). After 3 months, TM was found to be significantly non-inferior to EP on change in CAPS score ($p = 0.0002$). 61% of those receiving TM, 42% of those receiving EP, and 32% of those receiving HE showed clinically significant improvements on the CAPS score.

These studies indicate that Transcendental Meditation is capable of restoring balance to the emotions following exposure to stressful situations.

Increased Self-development

Self-development, or ego development, represents the evolution of “a person’s frame of reference” (Loevinger J, 1984) for making sense of the world and own self. This is important for understanding the impact of the EUROPE project because higher ego development—leading to qualities such as improved impulse control, character development, and greater empathy towards oneself and others (Witherell & Erickson, 2001) could have a big impact in preventing radicalisation.

In a study of university students, those who were practising the Transcendental Meditation and TM-Sidhi programme increased markedly on self-development (ego-development) ($p < .00001$, effect size = .9) when measured ten years after graduation, in contrast to control students at three other universities who were not participating in this programme. They also improved on a test of principled moral reasoning ($p < .005$, effect size .62) and intimacy ($p < .05$) (Chandler, Alexander & Heaton, 2005). In addition, 38% of the TM group scored at or beyond the autonomous level moving towards full acceptance of differences and acceptance of people as they are, compared to 1% of controls ($p < .0001$).

In another study, those practicing the TM technique developed a more strongly defined sense of self-concept, in comparison to controls (Turnbull and Norris, 1982). This is important because core dimensions of self-concept include moral-ethical, social-relational, and worth-competence-status. Students who learned the TM technique showed increased self-esteem ($p < .01$) after 14 weeks, in contrast to control students (Shecter, 1978) and others have reported greater moral maturity and more principled moral thinking compared to controls (Nidich, Nidich & Alexander (1983), (Nidich, Ryncarz, Abrams, Orme-Johnson & Wallace, 2000). These findings all point to increased frontal cortex integration.

Greater resilience to stress has also been reported as a result of the QT/TM programme. Ninth-grade students who were in the programme ($n = 141$) were comparing to a group of ninth-grade students ($n = 53$) attending a school that did not participate in the programme. Results indicated that QT/TM students scored significantly lower on anxiety ($p < 0.05$) and higher on resilience ($p < 0.05$) at follow-up than comparison group students. After participating in QT/TM, students

self-reported increases in their sleep, happiness, and self-confidence (Wendt et al., 2015).

A characteristic that may lead to radicalisation through the adoption of extremist ideology is that of rigid cognitive style where people become firmly attached to a particular ideology (Lauriola, Foschi & Marchegiani, 2015). A random assign-



ment study indicated less rigidity and greater cognitive flexibility in the elderly in the Transcendental Meditation group over a 3-month period compared to controls (Alexander, Langer, Newman & Chandler, 1989).

These improvements in self-development, self-concept, cognitive flexibility, leadership skills, moral maturity, self-confidence, and self-esteem, together with lower anxiety and higher resilience show a growth of self-actualization on the level of the individual that indicates the growth of qualities of self-sufficiency associated with the ability to overcome obstacles in life and less tendency to bow to peer pressure.

Increased Emotional Intelligence and social-emotional competence.

Practice of Transcendental Meditation has been shown in several studies to help balance the emotions and promote ethical thinking. For example, after three months TM practice, college students increased on Brain Integration Scale scores and decreased in sympathetic reactivity (Travis et al., 2009). They also decreased in negative personality traits, such as total mood disturbance, anxiety and depression, and increased in positive personality traits such as vigor, emotional intelligence and behavioral and emotional coping (Nidich et al., 2009).

In a white paper issued by the San Francisco Unified School District (2015), middle school students increased in several social-emotional competencies vs. controls on the Devereux Student Strengths Assessment (DESSA) teacher rating scale over the course of a school year. Improvement in emotional competency was most pronounced in the areas of relationship skills, optimistic thinking, goal-directed behavior, and decision-making ($p < .001$). Similar improvements in social emotional competence were also observed with high school students with highly significant decreases in mood disturbance ($p < .001$).

Student Surveys

The San Francisco Unified School District white paper also included a broad survey of 641 middle and high school QT/TM students. They were asked to respond to the following statements with a number 1 through 5 (1 represents “Not at all,” 3 represents “Somewhat,” 5 represents “Very much”). The following table presents the percentage of students who reported a 3, 4, or 5 in response to the corresponding statements. More than 90% of the students at each school reported at least one

positive result and more than 75% of students reported three or more positive results from QT/TM practice, indicating holistic benefit.

	O'Connell; Vis Valley; Burton; Everett			
	n=210	n=247	n=65	n=119
1. Meditating is easy for me.	98%	92%	91%	95%
2. Meditating makes me feel less stressed.	79%	85%	97%	73%
3. Meditating helps me focus better in school.	68%	84%	94%	70%
4. Meditating helps me get along with my friends better.	63%	82%	86%	62%
5. Since I started meditating, I am happier.	65%	82%	91%	60%
6. Since I started meditating, I sleep better.	63%	81%	91%	58%
7. Since I started meditating, I am less angry.	66%	80%	92%	56%
8. Meditating makes me feel more self-confident.	62%	79%	82%	60%
9. Since learning to meditate I get more of my work done, at home and at school.	63%	81%	86%	61%
10. I feel that meditation has helped me with my academic study.	65%	81%	86%	63%
11. Since learning to meditate I argue and fight less with others.	63%	88%	83%	53%
12. Since learning to meditate I feel I am making healthier choices in my life.	66%	92%	85%	55%

The questions above highlighted in bold confirm that Transcendental Meditation is easy and that it reduces stress, helps students get along better with their friends, makes them feel happier, makes them less angry, reduces arguments and fights, and helps them make healthier life choices. These responses all indicate a trend towards increased emotional intelligence, social emotional competence, greater social inclusion, and reduced chance for radicalisation.

A much smaller student survey involving 25 students who had learned the Transcendental Meditation programme was administered at a Midwest American Indian School in Nebraska, USA, and showed similar results.

Student Survey Item	No improvement	Small improvement	Moderate to Large Improvement
1 better relations with friends	0.00%	0.00%	100.00%
2 focus on schoolwork	8.00%	4.00%	88.00%
3 more self-confidence	0.00%	4.00%	96.00%
4 life is more organized	0.00%	0.00%	100.00%
5 happier	4.00%	4.00%	92.00%
6 less angry	4.00%	16.00%	80.00%
7 enjoy school more	12.00%	4.00%	84.00%
8 less stressed	0.00%	24.00%	76.00%

Student Survey Item	No improvement	Im-Small improvement	Im-Large Improvement	to
9 calmer	0.00%	8.00%	92.00%	
10 more self-esteem	0.00%	0.00%	100.00%	
11 less depressed	0.00%	16.00%	84.00%	
12 sleep better	12.00%	12.00%	76.00%	
13 less hyperactive	4.00%	20.00%	76.00%	
14 less impulsive	8.00%	12.00%	80.00%	
15 get in trouble less	4.00%	12.00%	84.00%	
16 better athletic performance	12.50%	0.00%	84.00%	
17 make better decisions	0.00%	4.00%	96.00%	
18 decisions based on what is right	4.00%	0.00%	96.00%	
19 better relations with family	8.30%	0.00%	91.60%	
20 better at my job (if have one)	0.00%	33.00%	66.00%	

Results of the survey indicate that over 90% of the students reported a moderate to large improvement in terms of better relationships with friends and family, making better decisions, higher self-esteem, and feeling calmer, happier, and more self-confident. The above data indicates the feasibility of implementing the Transcendental Meditation programme in a minority American Indian school (Bonchef, Walton & Gaylord-King, 2009).

Similar experiences have been reported at hundreds of schools worldwide. Here are two video links of principals speaking about their experiences. The first is Dr. George Rutherford, a principal from the Washington, D.C., area and the second is James Dierke, principal of a middle school in San Francisco.

<https://www.youtube.com/watch?v=3N4q1Tt1j0o>

<https://www.youtube.com/watch?v=BeghZJafFCE>

Improved relations with others: Greater altruism, increased tolerance, decreased anger and hostility, decreased negative behaviours, and reduced violence and tendency to assault

Frew (1974) reported that employees that participated in the Transcendental Meditation programme showed improved relationships with their co-workers and improved job performance in comparison to controls. Penner, Zingle, Dyck and Truch (1974) reported that individuals participating in the Transcendental Meditation programme, in comparison to norms, were found to have greater altruism and a strong concern for the welfare of others.

The practice of the Transcendental Meditation technique has been found to decrease negative behaviours amongst diverse populations, including students, prisoners, at-risk adolescents, and minorities. Improvements in mental well-being include: decreased impulsive tendency; reduced emotional instability; decreased neurotic tendency; and decreased stress, anxiety, and depression (Orme-Johnson & Moore, 2003).



Secondary students who learned the Transcendental Meditation programme showed increased tolerance after 14 weeks, in contrast to control students ($p < .001$) (Shecter, 1978), and university students rated more positively the important people in their lives (parents, spouse) than did control students (Gelderloos, Goddard, Ahlström & Jacoby, 1987). Significant improvements were found amongst all students compared to controls in total psycho-

logical distress ($p < .005$), anxiety ($p < .005$), depression ($p < .05$), and coping ability ($p < 0.005$) with a trend toward lower anger/hostility ($p = .06$ in the whole group and $p < .03$ in the subgroup at risk of hypertension) (Nidich et al., 2009).

It is well known that instances of criminal and violent behavior potentially increase the risk of future violence, so it is interesting to note that the QT/TM programme can illicit behavioural changes even in criminal populations. In a study with prisoners, 181 male inmates in the Oregon state corrections system were randomized to either Transcendental Meditation or standard care control group. Two prisons were used in this trial, Oregon State Correctional Institution (OSCI) and Oregon State Prison (OSP), both located in Salem, Oregon. Results after four months indicated significant reductions in total trauma symptom severity, anxiety, depression, dissociation, sleep problems, and perceived stress in the TM group compared with controls (all p values $< .001$ with effect sizes ranging from .50 to .75) (Nidich et al., 2016). The finding of reduced dissociation is particularly important in the context of reducing radicalisation as it has been associated with a reduced tendency for violent behaviour (Moskowitz A, 2004).

In a 20-month study on prisoners, improvements relative to controls were reported on Loevinger's Self-Development scale ($p < .0005$), together with decreases in state-trait anxiety ($p < .001$) and decreases in 5 scales of psychopathology, including psychopathic deviation ($p < .01$); anxiety ($p < .05$); aggression ($p < .05$); tension ($p < .05$) and introversion ($p < .05$) (Alexander, Walton, & Goodman, 2003). Young juvenile offenders showed a significant improvement in self-regard and social behaviour, as assessed by parents, after learning the Transcendental Meditation programme (Childs, 1974).

Several studies have reported significant improvements in social skills and reduced recidivism in incarcerated populations. Maximum security prison inmates who learned the Transcendental Meditation programme showed reduced negativism ($p < .001$), suspicion ($p < .005$), and neuroticism ($p < .001$). A replication study also found reduced tendency to assault ($p < .05$) and reduced verbal hostility ($p < .01$) (Abrams & Siegel, 1978). These findings all point towards increased social inclusion.

Studies with prisoners also show greater ability to fit into the norms of society after release from prison as shown in the following studies reporting reduced recidivism. A 15-year follow-up study of 248 former inmates at a maximum-security prison in California (120 who had learned the TM technique and 128 who served as controls), showed a significant reduction in recidivism ($p < .001$) due to practice of Transcendental Meditation (Rainforth, Alexander & Cavanaugh, 2003).

Parolees of the California Department of Corrections who had learned the Transcendental Meditation programme while in prison showed significantly decreased recidivism ($p < .05$), combining all parole outcomes over a five-year period after release, in comparison to matched controls (Bleick & Abrams, 1987). Another study compared the Transcendental Meditation programme to four other prison rehabilitation programmes and found that it was the only treatment programme that had a significant and positive effect of reducing recidivism ($p < .05$) (Alexander et al., 2003).

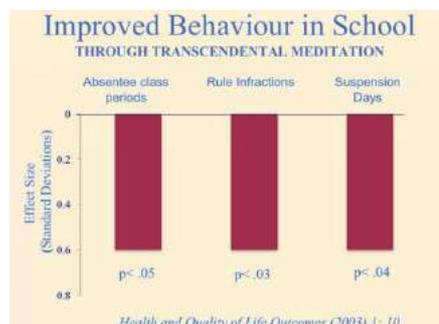
It has long been the accepted norm in prison rehabilitation circles that “nothing works”. Even the most optimistic criminal justice experts say, “nothing works yet”. For example, Professor Francis Cullen at the University of Cincinnati in his paper, *Rehabilitation: Beyond Nothing Works*, writes, “Criminologists must take seriously their obligation to develop a correctional science that *can invent treatment interventions capable of reducing offender recidivism*” (italics added for emphasis) (Cullen, 2013), thereby suggesting that any effective intervention has yet to be invented. He also cautions that “policy makers . . . must embrace evidence-based corrections”.

However, 25 years prior to Cullen’s remarks, the evidence-based Transcendental Meditation programme had been shown to reduce offender recidivism. The research on reduced recidivism cited above is of particular interest to the EUROPE project because it indicates that even hardened criminals, after release back into society, can become “socially included” with reduced hostile and violent tendencies.

The following research on schools shows that introducing the QT/TM programme can significantly improve behaviour and academic performance.

Effects in Schools: Improved behaviour, academic performance, and attendance

Many studies have reported that psychological distress, such as depression and anxiety, is linked to low academic achievement, adverse physical and mental health outcomes, and negative school behaviour (Suldo, Shaunessy & Hardesty, 2008).



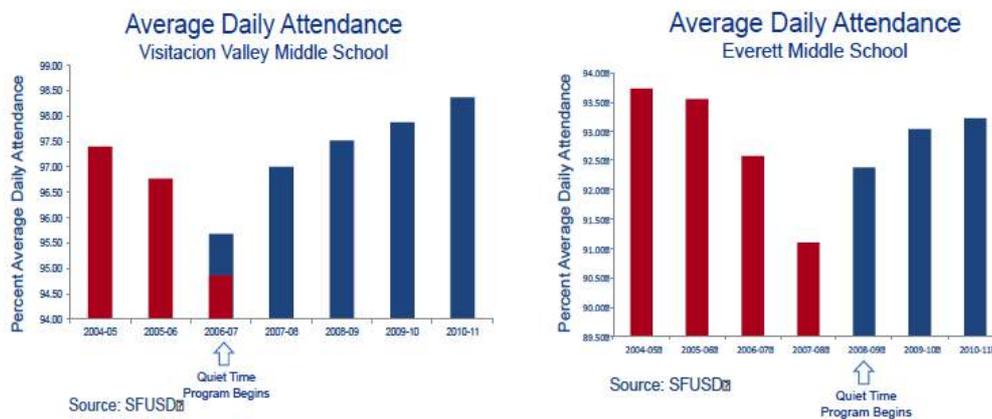
The QT/TM programme in schools has been found to improve behavior, decrease absenteeism and rule infractions, and reduce suspensions from behavior-related problems. For example, a randomized control trial conducted at the Medical College of Georgia, USA, found that at-risk students who learned the Transcendental Meditation technique, displayed after four months, in contrast to controls, decreased absences from school ($p < .05$), decreased violations of school rules ($p < .03$), and decreased days suspended from school due to behavior problems ($p < .04$) (Barnes, Bauza & Treiber, 2003). Middle school students practicing

the technique showed increased emotional regulation, and improved well-being (Rosaen & Benn, 2006).

In the San Francisco Unified School District study (2015), the two high schools that implemented QT/TM had significantly lower suspension rates than the 12 SFUSD district high schools in the control group ($p < .05$). Two middle schools in San Francisco showed increases in Grade Point Average, as well as a trend for better school attendance, following the introduction of the Quiet Time/ Transcendental Meditation programme. The graphs below show the average attendance level of each school over the past 6 years.

SCHOOL ATTENDANCE

Summary: School-wide Attendance at QT Middle Schools Trends Upward - Descriptive



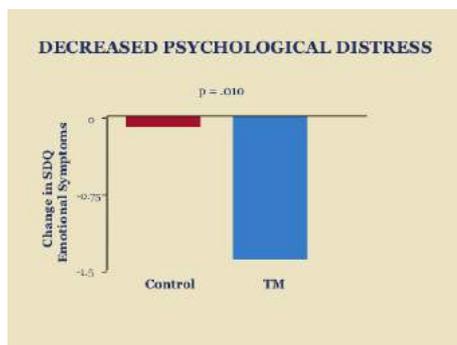
Supporting teachers and students in handling conflicts and dealing with diversity through the reduction of stress and anxiety

Traditional approaches to conflict prevention and resolution on the individual and social levels often fail because they do not address the underlying tensions that are the root cause of domestic violence or social conflict. While it may be argued that social injustice can be a precursor to violent behaviour, what is needed immediately as an intervention before violence erupts is an effective means to defuse deep-seated stresses and tensions before they reach boiling point. This point was clearly made by in March 2014 by former EU High Representative Baroness Ashton who said, "I deplore today's decision by Russia on the use of armed forces in Ukraine. This is an unwarranted *escalation of tensions* . . . *I call on all sides to decrease the tensions immediately through dialogue* . . ." (Italics added for emphasis). Unfortunately, it is difficult to hold meaningful dialogue in an atmosphere of escalating tension. What is clearly needed is a means to reduce individual and social tensions as a preparation for constructive dialogue.

Fortunately, research has shown that it is possible to effectively defuse both individual stress and societal tensions through the use of the evidence-based, stress-reducing, peace-promoting technologies of consciousness provided by the Transcendental Meditation and TM-Sidhi programmes. Here we review some of these

studies reporting reductions in biochemical markers of stress, trait anxiety, and post-traumatic stress disorder in children and adults.

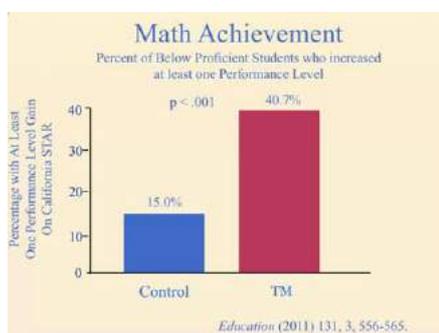
A study on 106 racial and ethnic minority secondary school students evaluated the effects of the Transcendental Meditation programme on psychological distress. Measures included the Strengths and Difficulties Questionnaire (SDQ) emotional symptoms scale, the Spielberger Children’s Anxiety Inventory (trait scale), and the Mental Health Inventory-5. Results indicated reductions in general psychological distress and anxiety (p values = .01) among meditating students compared to controls. These findings are of particularly importance because of the association between psychological distress and poor school performance and between negative affect and adverse physical and mental health outcomes (Elder et al., 2011).



In a randomized controlled trial, 296 university students were allocated to either the Transcendental Meditation programme or wait-list control. Students were measured at baseline and after three months on psychological distress using the Profile of Mood States, and on coping ability using the Constructive Thinking Inventory. Significant improvements were found in total psychological distress, anxiety, depression, anger/hostility, and coping ability for the entire sample ($p < 0.05$) (Nidich et al., 2009).

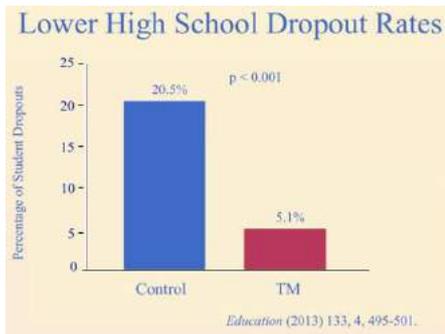
A feasibility study assessed whether the Transcendental Meditation technique may be a practical tool to reduce stress and anxiety in children as a means of reducing symptoms of Attention Deficit Hyperactivity Disorder (ADHD). Analysis showed significant reductions in psychological stress, anxiety and associated problems, and improvement in ADHD symptoms and executive function by student self-report and by teacher ratings ($p < .05$) (Grosswald, Stixrud, Travis & Bateh, 2008).

Improved Academic Performance

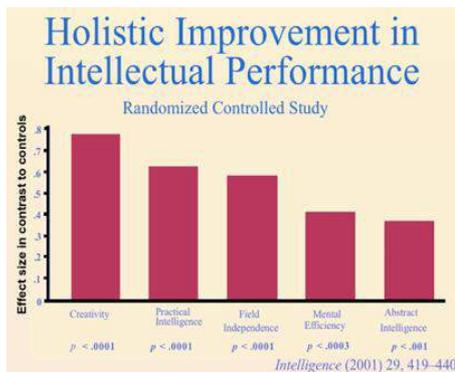


The practice of the Transcendental Meditation technique in elementary and secondary schools is also associated with improved academic performance. For example, at-risk public US middle school students displayed significant improvement on the standardized test measures of mathematics ($p=.001$) and language skills ($p=.005$) after three months of Transcendental Meditation, in comparison to

control students. Improvements were also significant for the lowest performing groups ($p<.02$) (Nidich et al., 2011).



Another US study, on a high school at-risk student population, showed a significantly higher graduation rate from secondary school ($p < .001$), lower drop-out rate ($p < .001$), and a higher rate of acceptance to postsecondary educational institutions than the matched controls ($p < .05$). (Colbert & Nidich, 2013).



Three Randomized Control Trials in Taiwan found that students who learned the Transcendental Meditation technique showed a holistic improvement in intellectual performance, in contrast to napping or contemplation meditation. Students showed significantly increased creativity, increased practical intelligence, increased fluid intelligence, increased field independence, increased mental quickness, and decreased anxiety over a period of six months (for the three studies combined, all p values $< .001$) (So & Orme-Johnson, 2001).

A technique, known as Word of Wisdom, taught to children ages 4-9 as a precursor to learning Transcendental Meditation at ages 10 and up, is also associated with accelerated cognitive development, improved concept learning, and improved focus and attention in children (Dixon et al., 2005). This finding is of interest because, as the EUROPE project has reached the attention of parents of younger students, there is now a demand from them to introduce this programme into primary schools.

In research performed by the San Francisco Unified School District, two middle schools located on the West Coast of the United States, which participated in the Quiet Time/Transcendental Meditation programme, were compared to the other 15 district middle schools on change in grade point average (GPA) over the past school year.



Approximately 85% of the students in school #1 and 95% in school #2 learned the Transcendental Meditation programme. Findings indicated that the combined Quiet

Time/Transcendental Meditation schools had a significant increase in grades, as measured by grade point average, compared to the other district middle schools ($p = .010$). Analysis with only the lower-half GPA district schools suggested a be-

tween-group effect ($p = .056$). The graph here shows the GPA of Quiet Time school #2 over 6 years.

A similar change in trend was observed in the two high schools that implemented Quiet Time vs. 12 other SFUSD comprehensive high schools. This chart shows a statistically significant greater growth in academic performance index (API) scores for the Quiet Time schools vs non-Quiet Time schools over a period of two years ($p = .020$). (San Francisco Unified School District White Paper, 2015). <https://vimeo.com/116622201>

Cost Effectiveness of the Quiet Time / Transcendental Meditation Programme

The above findings on students, teachers, and administrators indicate possible cost benefits of implementing the Quiet Time / Transcendental Meditation programme into educational institutions. Reduced student absenteeism and drop-out rates, higher graduation rates, and improved academic performance, show the potential for substantial cost savings to society. Reduced teacher stress and burnout may also translate into cost savings in terms of decreased absenteeism, improved job performance, and reduced health expenditures. Researchers have already shown substantial cost benefits in terms of health, especially in the area of cardiovascular health.

Costs of implementing the programme are modest, requiring one teacher of Transcendental Meditation for each cohort of 200 students during the initial phase of implementing the programme. School teachers and guidance counsellors may then be trained as teachers of Transcendental Meditation so that each school becomes self-sufficient after two years.

Conclusion

This report includes a number of well-controlled studies, including randomized control trials, that indicate that the Quiet Time / Transcendental Meditation programme is feasible to introduce into schools and results in an increase in brain integration, greater self-development, improved moral reasoning, warmer relations with and greater appreciation of others, improved academic performance, better attendance with reduced drop-out rate, decreased in anxiety and depression, improved behaviour, and reduced anger and hostility. These findings all point to a reduction in risk-factors for anti-social behavior, including radicalisation.

It is interesting to note that a World Bank report (Devarajan et al., 2016) based on leaked Islamic State records found no link between poverty or educational levels and radicalisation. The proportions of those who wanted to be administrators and “suicide fighters” actually increased with education, the report’s authors noted. Therefore, we cannot conclude that simply “educating” children will prevent radicalisation. If policy makers want to reduce the risk of radicalisation and promote social inclusion it will be necessary to provide education that not only provides informatory knowledge but also enlivens the prefrontal cortex to heighten the in-

dividual's resilience to stress and enhance self-development, so that citizens naturally exhibit broad empathy towards themselves and others. This can be achieved by adding proven techniques, such as the Quiet Time/Transcendental Meditation programme, to the curriculum of schools and prisons to develop greater integration of brain functioning and enliven the executive functions of the brain.

In order to accomplish this addition to the curriculum, school boards, school administrators, and government officials responsible for education and rehabilitation will need to be educated about the QT/TM programme and feel comfortable that in implementing it they are acting in accord with recommended best practices.

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