

# Transcendental Meditation: Overview of Research on Health

*Dr Roger Chalmers, 16 April 2014*

Transcendental Meditation (TM), as taught by Maharishi Mahesh Yogi, is a simple, effortless technique practised for 15-20 minutes twice daily. TM is taught by qualified teachers who have completed an extensive training programme. It requires no belief, nor any change in life-style or diet, and can be easily learned by anyone regardless of age, education, or culture. More than six million people have learned the technique worldwide. Since 1970, more than 600 research studies on TM have been conducted at over 250 universities and research institutions in 33 countries. Many have been published in peer-reviewed journals.

## **Improved cardiovascular health: reduction of high blood pressure, reduced cardiovascular events, and decreased mortality**

In recent years, a multicentre American team has attracted grants totalling over \$25 million, principally from the US National Institutes of Health, for research on TM and cardiovascular health in older African-Americans (a high-risk group for vascular disease). These and other randomized controlled trials (RCTs) have shown:

- In a nine-year study of patients with coronary heart disease, TM led to a 48% reduction in the rate of major clinical events (all-cause mortality plus non-fatal myocardial infarction and stroke) compared to controls who received education on risk factor reduction, including diet modification and exercise.<sup>1</sup>
- TM was more effective in reducing mild hypertension than progressive muscular relaxation or a 'usual care' programme.<sup>2</sup>
- TM reduced blood pressure effectively in both sexes and across a range of risk subgroups;<sup>3</sup> cost-effectiveness compared favourably with drugs.<sup>4</sup>
- Follow-up studies confirmed sustained blood pressure reductions with TM.<sup>5</sup>
- TM reduced carotid artery atherosclerosis compared to controls who received health education.<sup>6</sup>
- Pooled data from two randomized studies on hypertensive older people showed that TM was associated with a 23% reduction in all-cause mortality and a 30% decrease in cardiovascular deaths.<sup>7, 8</sup>
- In patients with stable coronary heart disease (CHD), TM decreased both blood pressure and insulin resistance – key components of the 'metabolic syndrome' associated with many major disorders of modern society, including CHD, type 2 diabetes, and hypertension. TM also increased stability of the cardiac autonomic nervous system.<sup>9</sup>
- TM improved functional capacity and quality of life in patients with chronic heart failure. TM subjects also showed reduced depression and had fewer hospitalizations.<sup>10</sup>
- In university students, TM reduced blood pressure, and also decreased total psychological distress, anxiety, depression, and anger/hostility; and improved coping.<sup>11</sup>
- In pre-hypertensive adolescents, TM improved blood pressure at rest, during acute laboratory stress, and during normal daily activity.<sup>12</sup>
- TM decreased left ventricular mass in pre-hypertensive adolescents compared to controls receiving health education, indicating reduction of an early sign of left

ventricular hypertrophy (the strongest predictor of cardiovascular mortality apart from age).<sup>13</sup>

A systematic review and meta-analysis of 107 published studies on stress reduction and high blood pressure found that TM significantly reduced both systolic and diastolic blood pressure, while other methods of meditation and relaxation, biofeedback, and stress management did not produce significant effects.<sup>14</sup> A second meta-analysis by an independent team confirmed that TM leads to clinically important reductions in blood pressure.<sup>15</sup> The authors conclude that sustained blood pressure changes of the magnitude produced by TM would be associated with substantially decreased risk of heart attack and stroke, the leading cause of mortality worldwide. These findings are corroborated by other reviews addressing the role of TM in prevention and treatment of hypertension and cardiovascular disease.<sup>16-21</sup>

Controlled research on TM has also found: improved exercise tolerance in angina patients with documented coronary lesions; reduction of elevated cholesterol (independent of dietary changes); improvements in clinical and ECG variables in patients with cardiac syndrome X (anginal pain, positive exercise ECG, and normal angiogram); lower cortisol levels and reduced cardiovascular risk factors in post-menopausal women.<sup>22-25</sup>

### **American Heart Association scientific statement**

A scientific statement from the American Heart Association (AHA) in 2013 concluded that Transcendental Meditation lowers blood pressure, and recommends that TM may be considered in clinical practice for prevention and treatment of hypertension. However, the AHA report found that there is not enough scientific evidence to recommend other meditation or relaxation techniques.<sup>20-21</sup>

### **Improved quality of life and well-being in women with breast cancer**

A randomized controlled trial examined effects of TM on quality of life and well-being in women with breast cancer (stage II to IV; average age 63.8 years). Using well-validated measures over an 18-month period, subjects practising TM showed improvements in overall quality of life, emotional well-being, social well-being, and mental health compared to control patients.<sup>26</sup> TM has also been found to improve functional quality of life and well-being for people with other chronic disorders.<sup>10, 27, 28</sup>

### **Improved health and well-being for elderly people**

A meticulously-controlled randomized study from Harvard found that elderly people who learned TM showed greater improvement on measures of mental health, cognitive flexibility, blood pressure, and well-being, and lower mortality than three comparison groups from the same residential institutions (who learned either a relaxation technique, 'mindfulness' training, or received no treatment).<sup>29</sup>

### **Improved psychological health and reduced substance abuse**

Many studies have documented benefits from TM for mental health and reduced substance abuse.<sup>1, 10-11, 26-44, 82-94</sup> In meta-analyses, TM was more effective than other meditation and relaxation procedures in reducing anxiety and improving overall

psychological health.<sup>30, 31</sup> Results remained robust after controlling for strength of design and exclusion of studies by experimenters with a known interest in TM.<sup>30</sup> These findings are supported by a recent meta-analysis of randomized controlled trials which found that TM was effective in reducing trait anxiety, with greater effects seen in subjects with high anxiety levels before starting the technique. TM had a stronger effect in decreasing anxiety than was observed with mindfulness in a previous meta-analysis.<sup>32</sup>

Another series of meta-analyses found that TM was significantly more effective in reducing smoking, alcohol consumption, and illicit drug use than conventional programmes, whether or not these were combined with relaxation techniques.<sup>33</sup>

A randomized controlled trial found that TM was more effective than psychotherapy in decreasing multiple features of post-traumatic stress disorder (PTSD) in war veterans, with reductions in depression, anxiety, insomnia, severity of delayed stress syndrome, emotional numbness, alcohol consumption, family problems, and difficulty in obtaining employment.<sup>34</sup> These results are corroborated by more recent studies on PTSD. American veterans of the Iraq and Afghanistan wars showed a 50% reduction in post-traumatic stress symptoms after eight weeks' practice of TM including reduced stress and depression, and improved relationships and quality of life.<sup>35, 36</sup> Civilian refugees of the Congo war with severe PTSD showed marked, rapid, and sustained reductions in symptom scores after commencing TM.<sup>37, 38</sup>

### **Decreased health care needs and costs**

A 14-year retrospective study of 2836 people enrolled in the Quebec provincial health insurance scheme found that, after beginning TM, subjects showed a progressive decline in payments to physicians compared to controls. The average annual difference was 13%, leading to a cumulative cost reduction of 55% after six years.<sup>45, 46</sup>

These findings are supported by further analyses of two important subgroups whose costs contribute strongly to overall health care expenditure: for the highest-cost 10% of subjects, the TM group's payments decreased by 11% over one year, with a cumulative reduction of 28% after five years; and for subjects over 65 years, the TM group showed a five-year cumulative cost reduction of 70%.<sup>47, 48</sup>

Earlier research using data from Blue Cross/Blue Shield, a major US health insurer, found that both hospital admissions and outpatient consultations were over 50% fewer for subjects practising TM compared to norms and controls. In the over-40 age group, the reduction was over 70%. Hospital admissions were markedly reduced in all 17 disease categories studied.<sup>49, 50</sup>

### **Deep rest and increased integration of brain functioning**

The physiological basis of TM's effects has been extensively investigated, revealing a unique state of restful alertness during the technique, characterized by increased integration in brain functioning and by metabolic, electrophysiological and biochemical markers of deep rest. Regular practice is associated with sustained increases in brain integration and reductions in psychophysiological correlates of stress and ageing.<sup>51-71, 29</sup>

### **Improvements in education, occupational health, and rehabilitation**

Educational research (including randomized controlled trials) has shown that TM develops intelligence and creativity; increases brain integration in college students; promotes cognitive and self development; increases academic achievement in school, university, and postgraduate students; improves perception and mind-body co-ordination; decreases negative school behaviour in adolescents; and improves brain integration, cognitive functioning, behaviour and symptoms in children with ADHD.<sup>51, 60, 72-83</sup> Secondary schoolchildren practising TM had higher rates of high school graduation and lower school dropout than controls.<sup>84</sup>

TM has also been found to reduce stress, depression, and burnout among school teachers and support staff,<sup>39</sup> to improve occupational health and performance for employees and managers,<sup>40, 85-89</sup> and to promote effective rehabilitation of offenders.<sup>90-94</sup>

### **Improved collective health for society**

More than 50 controlled studies (including prospective projects) have found that collective practice of TM (and its advanced techniques, including Yogic Flying) by a small fraction of the total population can improve the collective health of society as a whole, as measured by reductions in crime, accidents, unemployment, and both civil and international conflict, and improvements in positive trends throughout the community, nation, and world.<sup>95-106</sup>

### **References:**

1. Schneider RH *et al.* Stress reduction in the secondary prevention of cardiovascular disease: randomized, controlled trial of Transcendental Meditation and health education in blacks. *Circulation: Cardiovascular Quality and Outcomes* 2012 5:750-758
2. Schneider RH *et al.* A randomized controlled trial of stress reduction for hypertension in older African Americans. *Hypertension* 1995 26:820-827
3. Alexander CN *et al.* Trial of stress reduction for hypertension in older African Americans: II. Sex and risk subgroup analysis. *Hypertension* 1996 28:228-237
4. Herron R *et al.* Cost-effective hypertension management: comparison of drug therapies with an alternative program. *American Journal of Managed Care* 1996 2:427-437
5. Schneider RH *et al.* A randomized controlled trial of stress reduction in African Americans treated for hypertension for over one year. *American Journal of Hypertension* 2005 18:88-98
6. Castillo-Richmond A *et al.* Effects of stress reduction on carotid atherosclerosis in hypertensive African Americans. *Stroke* 2000 31:568-573
7. Schneider RH *et al.* Long-term effect of stress reduction on mortality in persons >55 years of age with systemic hypertension. *American Journal of Cardiology* 2005 95:1060-1064
8. Barnes VA *et al.* Impact of Transcendental Meditation on mortality in older African Americans with hypertension—eight-year follow-up. *Journal of Social Behavior and Personality* 2005 17:201-216
9. Paul-Labrador M *et al.* Effects of a randomized controlled trial of Transcendental Meditation on components of the metabolic syndrome in subjects with coronary heart disease. *Archives of Internal Medicine* 2006 166:1218-1224
10. Jayadevappa R *et al.* Effectiveness of Transcendental Meditation on functional capacity and quality of life of African Americans with congestive heart failure: a randomized control study. *Ethnicity and Disease* 2007 17:72-77
11. Nidich S *et al.* A randomized controlled trial on effects of the Transcendental Meditation program on blood pressure, psychological distress, and coping in young adults. *American Journal of Hypertension* 2009 22:1326-1331
12. Barnes VA *et al.* Impact of stress reduction on ambulatory blood pressure in African American adolescents. *American Journal of Hypertension* 2004 17:366-368

13. Barnes VA *et al.* Impact of Transcendental Meditation on left ventricular mass in African American adolescents. *Evidence-Based Complementary and Alternative Medicine* 2012:923153, 1-6.  
[doi:10.1155/2012/923153](https://doi.org/10.1155/2012/923153)
14. Rainforth MV *et al.* Stress reduction programs in patients with elevated blood pressure: a systematic review and meta-analysis. *Current Hypertension Reports* 2007 9:520-528
15. Anderson JW *et al.* Blood pressure response to Transcendental Meditation: a meta-analysis. *American Journal of Hypertension* 2008 21:310-316
16. Barnes VA, Orme-Johnson DW. Prevention and treatment of cardiovascular disease in adolescents and adults through the Transcendental Meditation program: a research review update. *Current Hypertension Reviews* 2012 8:227-242
17. Walton KG *et al.* Review of controlled research on the Transcendental Meditation program and cardiovascular disease – risk factors, morbidity and mortality. *Cardiology in Review* 2004 12:262-266
18. Walton KG *et al.* Psychosocial stress and cardiovascular disease. Part 3: clinical and policy implications of research on the Transcendental Meditation program. *Behavioral Medicine* 2005 30:173-183
19. Orme-Johnson DW *et al.* Transcendental Meditation for primary and secondary prevention of coronary heart disease. In: R Allan, J Fisher (eds), *Heart & Mind: the Practice of Cardiac Psychology*, 2<sup>nd</sup> edition (pp.365-379). Washington DC: American Psychological Association, 2011
20. Brook RD *et al.* Beyond medications and diet: alternative approaches to lowering blood pressure. A scientific statement from the American Heart Association. *Hypertension* 2013 61:1360-1383
21. Schneider RH. Response to AHA scientific statement on alternative methods and BP: evidence for upgrading the ratings for Transcendental Meditation. *Hypertension* 2013 62:e42  
<http://hyper.ahajournals.org/content/early/2013/10/14/HYPERTENSIONAHA.113.02115.citation>
22. Zamarra JW *et al.* Usefulness of the Transcendental Meditation program in the treatment of patients with coronary artery disease. *American Journal of Cardiology* 1996 77:867-869
23. Cooper M, Aygen M. Transcendental Meditation in the management of hypercholesterolemia. *Journal of Human Stress* 1979 5:24-27
24. Cunningham CH *et al.* The effects of Transcendental Meditation on symptoms and electrocardiographic changes in patients with cardiac syndrome X: a pilot study. *American Journal of Cardiology* 2000 85:653-655
25. Walton KG *et al.* Lowering cortisol and CVD risk in postmenopausal women: a pilot study using the Transcendental Meditation program. *Annals of the New York Academy of Sciences* 2004 1032:211-215
26. Nidich SI *et al.* A randomized controlled trial of the effects of Transcendental Meditation on quality of life in older breast cancer patients. *Integrative Cancer Therapies* 2009 8:228-234
27. Chhatre S *et al.* Effects of behavioral stress reduction Transcendental Meditation intervention in persons with HIV. *AIDS Care: Psychological and Socio-medical Aspects of AIDS/HIV* 2013 25:1291-1297  
[doi.org/10.1080/09540121.2013.764396](https://doi.org/10.1080/09540121.2013.764396)
28. Wilson AF *et al.* Transcendental Meditation and asthma. *Respiration* 1975 32:74-80
29. Alexander CN *et al.* Transcendental Meditation, mindfulness, and longevity: an experimental study with the elderly. *Journal of Personality and Social Psychology* 1989 57:950-964
30. Eppley K *et al.* Differential effects of relaxation techniques on trait anxiety: a meta-analysis. *Journal of Clinical Psychology* 1989 45:957-974
31. Alexander CN *et al.* Transcendental Meditation, self-actualization, and psychological health: a conceptual overview and statistical meta-analysis. *Journal of Social Behavior and Personality* 1991 6:189-247
32. Orme-Johnson DW, Barnes VA. Effects of the Transcendental Meditation Technique on trait anxiety: a meta-analysis of randomized controlled trials. *Journal of Alternative and Complementary Medicine* 2013 19:1-12
33. Alexander CN *et al.* Treating and preventing alcohol, nicotine, and drug abuse through Transcendental Meditation: a review and statistical meta-analysis. *Alcoholism Treatment Quarterly* 1994 11:13-87
34. Brooks JS, Scarano T. Transcendental Meditation in the treatment of post-Vietnam adjustment. *Journal of Counseling and Development* 1985 64:212-215
35. Rosenthal JZ *et al.* Effects of Transcendental Meditation in veterans of Operation Enduring Freedom and Operation Iraqi Freedom with posttraumatic stress disorder: a pilot study. *Military Medicine* 2011 176:626-630

36. Barnes VA et al. Clinical case series: treatment of PTSD with Transcendental Meditation in active duty military personnel. *Military Medicine* 2013 178:e836-40. doi:10.7205/MILMED-D-12-00426
37. Rees B, Travis F, Shapiro D, Chant R. Reduction in posttraumatic stress symptoms in Congolese refugees practicing Transcendental Meditation. *Journal of Traumatic Stress* 2013 26:295-298
38. Rees B, Travis F, Shapiro D, Chant R. Significant reductions in posttraumatic stress symptoms in Congolese refugees within 10 days of Transcendental Meditation practice. *Journal of Traumatic Stress* 2014 27:112-115
39. Elder C et al. Effect of Transcendental Meditation on employee stress, depression, and burnout: a randomized controlled study. *The Permanente Journal* 2014 18:19-23.  
<http://dx.doi.org/10.7812/TPP/13-102>
40. Sheppard DH et al. The effects of a stress management program in a high security government agency. *Anxiety, Stress and Coping* 1997 10:341-350
41. Taub E et al. Effectiveness of broad spectrum approaches to relapse prevention in severe alcoholism: a long-term, randomized, controlled trial of Transcendental Meditation, EMG biofeedback and electronic neurotherapy. *Alcoholism Treatment Quarterly* 1994 11:187-220
42. Royer A. The role of the Transcendental Meditation technique in promoting smoking cessation: a longitudinal study. *Alcoholism Treatment Quarterly* 1994 11:221-238
43. Shafii M et al. Meditation and marijuana. *American Journal of Psychiatry* 1974 131:60-63
44. Shafii M et al. Meditation and the prevention of alcohol abuse. *American Journal of Psychiatry* 1975 132:942-945
45. Herron R, Hillis S. The impact of the Transcendental Meditation program on government payments to physicians in Quebec: an update. *American Journal of Health Promotion* 2000 14:284-291
46. Herron RE et al. The impact of the Transcendental Meditation program on government payments to physicians in Quebec. *American Journal of Health Promotion* 1996 10:208-216
47. Herron R. Changes in physician costs among high-cost Transcendental Meditation practitioners compared with high-cost nonpractitioners over 5 years. *American Journal of Health Promotion* 2011 26(1):56-60
48. Herron RE, Cavanaugh KL. Can the Transcendental Meditation program reduce medical expenditures of older people? A longitudinal cost-reduction study in Canada. *Journal of Social Behavior and Personality* 2005 17:415-442
49. Orme-Johnson DW. Medical care utilization and the Transcendental Meditation program. *Psychosomatic Medicine* 1987 49:493-507
50. Orme-Johnson DW, Herron R. An innovative approach to reducing medical care utilization and expenditures. *American Journal of Managed Care* 1997 3:135-144
51. Travis FT et al. Effects of Transcendental Meditation practice on brain functioning and stress reactivity in college students. *International Journal of Psychophysiology* 2009 71:170-176
52. Travis FT et al. A self-referential default brain state: patterns of coherence, power, and eLORETA sources during eyes-closed rest and the Transcendental Meditation practice. *Cognitive Processing* 2010 11:21-30
53. Travis F, Shear J. Focused attention, open monitoring and automatic self-transcending: categories to organize meditations from Vedic, Buddhist and Chinese traditions. *Consciousness and Cognition* 2010 19:1110-1118
54. Travis F. Comparison of coherence, amplitude, and eLORETA patterns during transcendental meditation and TM-Sidhi practice. *International Journal of Psychophysiology* 2011 81(3):198-202
55. Yamamoto S et al. Medial prefrontal cortex and anterior cingulate cortex in the generation of alpha activity induced by Transcendental Meditation: a magnetoencephalographic study. *Acta Medica Okayama* 2006 60:51-58
56. Travis F. Transcendental experiences during meditation practice. *Annals of the New York Academy of Sciences* 2014 1307:1-8. [doi/10.1111/nyas.12316/full](https://doi.org/10.1111/nyas.12316/full)
57. Orme-Johnson DW et al. Neuroimaging of meditation's effect on brain reactivity to pain. *NeuroReport* 2006 17:1359-1363
58. Travis FT, Arenander A. Cross-sectional and longitudinal study of effects of Transcendental Meditation practice on interhemispheric frontal asymmetry and frontal coherence. *International Journal of Neuroscience* 2006 116:1519-1538

59. Hebert JR *et al.* Enhanced EEG alpha time-domain phase synchrony during Transcendental Meditation: implications for cortical integration theory. *Signal Processing* 2005 85:2213-2232
60. Travis F *et al.* ADHD, brain functioning, and Transcendental Meditation practice. *Mind & Brain, The Journal of Psychiatry* 2011 2:73-81
61. Dillbeck MC, Orme-Johnson DW. Physiological differences between Transcendental Meditation and rest. *American Psychologist* 1987 42:879-881
62. Jevning R *et al.* The physiology of meditation: a review. A wakeful hypometabolic integrated response. *Neuroscience and Biobehavioral Reviews* 1992 16:415-424
63. Wallace RK *et al.* A wakeful hypometabolic physiologic state. *American Journal of Physiology* 1971 221:795-799
64. Wolkove N *et al.* Effect of Transcendental Meditation on breathing and respiratory control. *Journal of Applied Physiology: Respiratory, Environmental and Exercise Physiology* 1984 56:607-612
65. Jevning R *et al.* Forearm blood flow and metabolism during stylized and unstylized states of decreased activation. *American Journal of Physiology* 1983 245 (Regulatory Integrative Comp. Physiol.14):R110-R116
66. Gallois P. Modifications neurophysiologiques et respiratoires lors de la pratique des techniques de relaxation. *L'Encephale* 1984 10:139-144
67. MacLean CR *et al.* Effects of the Transcendental Meditation program on adaptive mechanisms: changes in hormone levels and responses to stress after four months of practice. *Psychoneuroendocrinology* 1997 22:277-295
68. Infante JR *et al.* Daytime hormonal rhythms in practitioners of the Transcendental Meditation-Sidhi program. *Biomedical Research* 2010 21:161-166
69. Tooley GA *et al.* Acute increases in night-time plasma melatonin levels following a period of meditation. *Biological Psychology* 2000 53(1):69-78
70. Glaser JL *et al.* Elevated serum dehydroepiandrosterone sulfate levels in practitioners of the Transcendental Meditation (TM) and TM-Sidhi programs. *Journal of Behavioral Medicine* 1992 15:327-341
71. Wallace RK *et al.* The effects of the Transcendental Meditation and TM-Sidhi program on the aging process. *International Journal of Neuroscience* 1982 16:53-58
72. So KT, Orme-Johnson DW. Three randomized experiments on the holistic longitudinal effects of the Transcendental Meditation technique on cognition. *Intelligence* 2001 29:419-440
73. Chandler HM *et al.* Transcendental Meditation and postconventional self-development: a 10-year longitudinal study. *Journal of Social Behavior and Personality* 2005 17:93-122
74. Nidich SI *et al.* Moral development and higher states of consciousness. *Journal of Adult Development* 2000 7:217-225
75. Cranson RW *et al.* Transcendental Meditation and improved performance on intelligence-related measures: a longitudinal study. *Journal of Personality and Individual Differences* 1991 12:1105-1116
76. Dixon C *et al.* Accelerating cognitive and self development: longitudinal studies with preschool and elementary school children. *Journal of Social Behavior and Personality* 2005 17:65-91
77. Nidich S *et al.* Academic achievement and Transcendental Meditation: a study with at-risk urban middle school students. *Education* 2011 131:556-564
78. Nidich SI, Nidich RJ. Increased academic achievement at Maharishi School of the Age of Enlightenment: a replication study. *Education* 1989 109:302-304
79. Kember P. The Transcendental Meditation technique and postgraduate academic performance. *British Journal of Educational Psychology* 1985 55:164-166
80. Fergusson LC *et al.* Field independence, transcendental meditation, and achievement in college art: a re-examination. *Perceptual and Motor Skills* 1993 77:1104-1106
81. Sridevi K, Krishna Rao PV. Temporal effects of meditation on cognitive style. *Journal of Indian Psychology* 2003 21:38-51
82. Barnes VA *et al.* Impact of stress reduction on negative school behavior in adolescents. *Health and Quality of Life Outcomes* 2003 1:10
83. Grosswald SJ *et al.* Use of the Transcendental Meditation technique to reduce symptoms of Attention Deficit Hyperactivity Disorder (ADHD) by reducing stress and anxiety: an exploratory study. *Current Issues in Education* [on-line] 2008 10(2). Available: <http://cie.ed.asu.edu/volume10/number2/>

84. Colbert RD, Nidich S. Effect of the Transcendental Meditation Program on graduation, college acceptance and dropout rates for students attending an urban public high school. *Education* 2013 133:495-501
85. Haratani T, Hemmi T. Effects of Transcendental Meditation on mental health of industrial workers. *Japanese Journal of Industrial Health* 1990 32:656
86. Haratani T, Hemmi T. Effects of Transcendental Meditation on health behavior of industrial workers. *Japanese Journal of Public Health* 1990 37:729
87. Alexander CN *et al.* Effects of the Transcendental Meditation program on stress reduction, health, and employee development: a prospective study in two occupational settings. *Anxiety, Stress, and Coping* 1993 6:245-262
88. Schmidt-Wilk J *et al.* Developing consciousness in organizations: the Transcendental Meditation program in business. *Journal of Business & Psychology* 1996 10:429-444
89. Harung H *et al.* Higher development, brain integration, and excellence in leadership. *Management Decision* 2009 47:872-894
90. Goodman RS *et al.* The Transcendental Meditation program—a consciousness-based developmental technology for rehabilitation and crime prevention. *Journal of Offender Rehabilitation* 2003 36:1-34
91. Bleick CR, Abrams AI. The Transcendental Meditation program and criminal recidivism in California. *Journal of Criminal Justice* 1987 15:211-230
92. Rainforth M *et al.* Effects of the Transcendental Meditation program on recidivism of former inmates of Folsom Prison: survival analysis of 15-year follow-up data. *Journal of Offender Rehabilitation* 2003 35:181-204
93. Abrams AI, Siegel LM. The Transcendental Meditation program and rehabilitation at Folsom State Prison: a cross-validation study. *Criminal Justice and Behavior* 1978 5:3-20
94. Anklesaria FK, King MS. The Transcendental Meditation program in the Senegalese penitentiary system. *Journal of Offender Rehabilitation* 2003 36:303-318
95. Hatchard GD *et al.* The Maharishi Effect: a model for social improvement. Time series analysis of a phase transition to reduced crime in Merseyside Metropolitan Area. *Psychology, Crime and Law* 1996 2:165-174
96. Dillbeck M *et al.* Effects of Transcendental Meditation and the TM-Sidhi program on quality of life indicators: consciousness as a field. *The Journal of Mind and Behaviour* 1987 8:67-104
97. Dillbeck M *et al.* Test of a field model of consciousness and social change: Transcendental Meditation and TM-Sidhi program and decreased urban crime. *The Journal of Mind and Behavior* 1988 9:457-486
98. Hagelin JS *et al.* Results of the National Demonstration Project to reduce violent crime and improve governmental effectiveness in Washington D.C. *Social Indicators Research* 1999 47:153-201
99. Dillbeck MC. Test of a field hypothesis of consciousness and social change: time series analysis of participation in the TM-Sidhi program and reduction of violent death in the U.S. *Social Indicators Research* 1990 22:399-418
100. Dillbeck MC *et al.* The Transcendental Meditation program and crime rate change in a sample of forty-eight cities. *Journal of Crime and Justice* 1981 4:25-45
101. Orme-Johnson DW *et al.* International peace project in the Middle East: the effects of the Maharishi Technology of the Unified Field. *Journal of Conflict Resolution* 1988 32:776-812
102. Orme-Johnson DW *et al.* The effects of the Maharishi Technology of the Unified Field: reply to a methodological critique. *Journal of Conflict Resolution* 1990 34:756-768
103. Davies JL, Alexander CN. Alleviating political violence through reducing collective tension: impact assessment analysis of the Lebanon war. *Journal of Social Behavior and Personality* 2005 17:285-338
104. Orme-Johnson DW *et al.* Preventing terrorism and international conflict: effects of large assemblies of participants in the Transcendental Meditation and TM-Sidhi programs. *Journal of Offender Rehabilitation* 2003 36:283-302
105. Assimakis PD, Dillbeck MC. Time series analysis of improved quality of life in Canada: social change, collective consciousness, and the TM-Sidhi program. *Psychological Reports* 1995 76:1171-1193
106. Cavanaugh KL *et al.* A multiple-input transfer function model of Okun's misery index: an empirical test of the Maharishi Effect. *Proceedings of the American Statistical Association, Business and Economics Statistics Section* (pp.565-570), Alexandria, Virginia: American Statistical Association, 1989