

SCIENTIFIC RESEARCH - addendum

ADDENDUM TO SCIENTIFIC RESEARCH

Scientific research on Transcendental Meditation (TM) comprises more than 600 studies conducted at over 250 independent universities and research institutes in 33 countries. These studies have demonstrated a wide range of benefits for mind, body, behaviour, and society, and have appeared in many leading peer-reviewed journals.

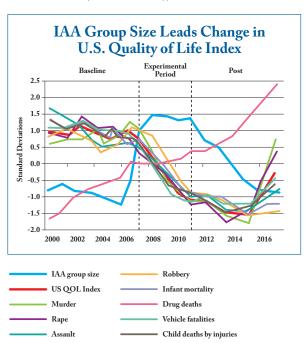
ADDENDUM TO SCIENTIFIC RESEARCH

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Recent advances in research on the Maharishi Effect – sustained reductions in homicide, violent crime, murder, accidental fatalities, infant mortality, and drug-related deaths

Six recent papers confirm and extend previous research on the Maharishi Effect, demonstrating sustained improvements in multiple social measures and further strengthening the validity of statistical analysis through a battery of diagnostic tests [439-444]. Four of these studies examined effects of a large assembly, called the Invincible America Assembly (IAA), practising the Transcendental Meditation and TM-Sidhi programme in Iowa from 2007 to 2010, when group size consistently exceeded (or was near to) the critical threshold predicted to generate the Maharishi Effect for the United States as a whole [439-442].

Compared with trends in the 50-month pre-intervention period (when group size was well below the critical threshold), the 48-month intervention period showed cumulative reductions in US national mortality rates from: homicide (21.2% decrease); motor vehicle accident



This chart shows that all indices of negativity in society began to decline simultaneously during the Experimental Period, and then all turned around and began to increase again in the Post period when the IAA group size decreased. This indicates that the Maharishi Effect works on the unified-field level of natural law underlying all the diverse variables.

The thick red line is the mean of all the Quality of Life indices. All variables were normalized (Z transformed, with a mean of 0 and a standard deviation of 1). It can be seen that the QOL indices began to change when the size of the IAA group approached or achieved the $\sqrt{1\%}$ level of the US population, the first dotted vertical line. Reference: David W. Orme-Johnson, 2018 research in progress.

fatalities (13.5% decrease); other accidental fatalities (20.5% decrease); drug-related deaths (20.5% decrease); and infant mortality (12.5% decrease) [439-441]. Reductions were also found for rates of violent crime (18.4% decrease) and murder (28.4% decrease), measured in a sample of 206 urban areas (total population 60 million in 2010) [439, 442].

These findings are of major practical significance, translating into expected reductions over the four-year intervention period of: 8,157 fewer homicides; 19,435 fewer fatalities from motor vehicle accidents; 16,759 fewer fatalities from other accidents; 26,425 fewer drug-related deaths; and 992 fewer infant deaths [439-441]. There were also 186,774 fewer violent crimes and 4,136 fewer murders than expected in the 206 urban areas studied [439, 442]. Interestingly, although these urban areas initially had higher murder rates than the country as a whole, they experienced a greater decrease during the experimental period [439, 442].

The authors examine other possible explanations for these results, but none was found to account for the findings. Notably, in contrast to all previous major economic downturns since World War II, violent crime failed to rise during the severe recession that followed the global financial crisis of 2008 [439, 442].

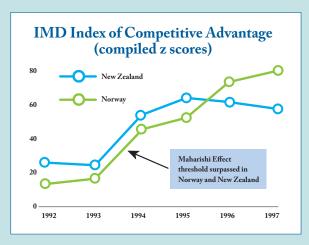
These findings are corroborated by more than 30 previous studies showing reduced crime and violence through the Maharishi Effect since 1974 [366-372, 375, 385-386]. For example, in a notable prospective test, 4000 participants in the TM-Sidhi programme gathered in Washington, DC for a six-week demonstration project in 1993. Predictions were lodged in advance with a 27-member independent review panel and advertised in the Washington Post. Results showed a 15.6% reduction in total violent crime during the project period, as well as increased approval ratings for President Clinton; reductions in accidents, emergency psychiatric calls, and hospital trauma cases; decreased complaints against police; and improvement in a quality of life index [369].

Reductions in crime rate were also observed when assemblies of experts in the TM-Sidhi programme exceeded the square root of one per cent of the population of the Union Territory of Delhi, India; Metro Manila, Philippines; Puerto Rico, USA [370]; and Metropolitan Merseyside, UK [368]. The latter study documented sustained crime reductions when the coherence-creating group was maintained over a number of years: during this period, Merseyside crime rate declined from the third highest among the eleven largest UK metropolitan areas to the lowest [368]. Sustained improvements in multiple indicators of quality of life were also found in a US study, including reduced fatalities due to homicide, suicide, and motor vehicle accidents, and improvement in economic indicators, when a stable coherence-creating group in Iowa exceeded the size predicted to influence the USA, or both the USA and Canada [373, 377-381].

Increased economic prosperity and national competitiveness

A recent analysis examined the economic fortunes of the two countries with the highest per capita participation in Transcendental Meditation - New Zealand and Norwayboth of which passed the predicted coherence threshold of 1% of the population instructed in TM in 1993. Scores on the Institute for Management Development (IMD) Index of National Competitive Advantage increased significantly for both countries when they passed the 1% threshold, in comparison to 44 other developed nations over a 7-year period. Subsidiary analysis and Organisation for Economic Co-operation and Development (OECD) data confirmed that the economic improvements were unusually broadbased, sustained, and balanced in nature, with five years of high growth, low unemployment, and low inflation [443]. For New Zealand, a cost-benefit analysis of coherencecreation through Transcendental Meditation conservatively estimated the gain to the nation at \$320 for every \$1 invested in implementing the programme [443].

These results complement previous findings of improvement in economic indicators at national and international levels as a result of the Maharishi Effect, including decreases in an index of unemployment and inflation (USA and Canada) [378-381], increased stock market indices (USA, UK, Israel, and worldwide) [376, 382, 385-387], and increased patent applications (USA, UK, South Africa and Australia) [387].



The IMD Index of National Competitive Advantage is a measure of the relative economic health of a country and its capacity to promote growth. By 1993, in Norway and New Zealand, 1% of the population had been instructed in Transcendental Meditation. Reference: Journal of Health and Environmental Research 2017 (443).

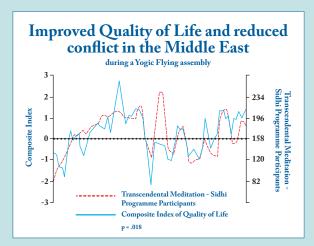
Decreased conflict and increased progress towards peace

The Maharishi Effect has been repeatedly shown to calm even the most extreme forms of societal stress and disorder, as evidenced by reduced war intensity and international conflict, decreased deaths and injuries from war and international terrorism, increased progress toward peaceful resolution of conflict, reduced international tension, and increased harmony in international affairs [385-391, 395, 444, 448].

For example, war intensity in the Lebanese conflict in 1983 was reduced on days when a group practising the TM-Sidhi programme in Jerusalem over a 2-month period reached sufficient size to generate the Maharishi Effect for the region. Improvements were also found in composite indices of quality of life (including data on crime, motor vehicle accidents, fires, national mood, and the stock market) for both Jerusalem and Israel as a whole when the group was large enough to predict effects at the city or national levels [385-386, 395].

In a recent factor analysis of these results, the quality of life index proved reliably sensitive to important factors influencing collective consciousness, such as major political and climatic events. However, the effect of the group practising the Transcendental Meditation and TM-Sidhi programme on the quality of life index was substantially greater than any of the cultural, military, political, or climatic events studied, and generated improvements both in parameters that are predominantly collectively motivated (decreased war intensity, increased stock prices, improved

national mood) and in parameters that are predominantly individually motivated (decreased crime, accidents, and fires), with the strongest impact seen on the collectively motivated measures [444].

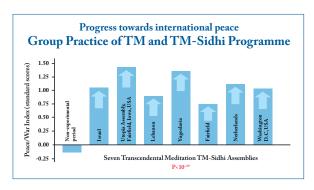


Group practice of the Transcendental Meditation and TM-Sidhi programme improved the quality of life in Israel, measured by improvement on an index consisting of reduced crime rate, reduced traffic accidents, reduced fires, reduced war deaths in Lebanon, and improvements in the national stock market and national mood. Note the strong correspondence between the number of Yogic Flyers in the Jerusalem group and the composite index of all the above variables.

Reference: Journal of Conflict Resolution 1988 (385).

The finding of reduced war in Lebanon was subsequently replicated for all seven assemblies of TM-Sidhi experts of sufficient size to predict the Maharishi Effect for the region during the peak of the conflict between 1983 and 1985, including groups located in or close to Lebanon and larger assemblies further afield [388]. Statistical analysis controlled for temperature, holidays, and weekends, and results were found to be independent of alternative explanations. Multiple indicators of reduced conflict also replicated the findings when combining intervention periods, including: 71% reduction in war-related fatalities; 68% decrease in war-related injuries; and 48% reduction in level of conflict [388].

Other investigations have documented calming of conflict on a wider international scale, including: decreased hostilities in major world trouble-spots when groups practising the TM-Sidhi programme assembled in the affected areas [448]; and reduced international conflict and increased harmony in worldwide affairs when a group achieved the size predicted to generate the Maharishi Effect for the entire world [387]. A subsequent study examining the effect on world events of three such large assemblies found a 72% reduction in international terrorism, a 33% decrease in international conflict, and increased world stocks [389].



On seven different occasions when the size of assemblies practising Maharishi's Transcendental Meditation and TM-Sidhi Programme together in a group exceeded the number predicted to be necessary to influence the war in Lebanon, significant and dramatic progress towards peace was made. War-related fatalities decreased 70%, war injuries decreased 68%, and co-operation among antagonists increased 66%.

Reference: Journal of Social Behaviour and Personality 2005 (388).

World Peace - an achievable goal through the Maharishi Effect

With the discovery of the Maharishi Effect, world peace and prosperity become, for the first time, achievable and sustainable goals. Permanent maintenance of several groups of 8,700 individuals collectively practising the Transcendental Meditation and TM-Sidhi programme – more than enough to generate a continuous powerful influence of coherence and positivity for the entire world – would cost no more than a few advanced military aircraft

[392-393, 405]. Moreover, based on research findings on the Maharishi Effect, it can be anticipated that investment in establishing and maintaining coherence-creating groups will be readily recouped through the massive fiscal benefits consequent upon reduced conflict, increased international peace and co-operation, reduction of major social problems (such as crime, accidents, and unemployment), and improved economic performance (see enclosure 9 - Cost Benefits).

References

- 430. Nidich S et al. Reduced trauma symptoms and perceived stress in male prison inmates through the Transcendental Meditation Program: a randomized controlled trial. *The Permanente Journal* 2016 20(4):16-007. doi.org/10.7812/TPP/16-007
- 431. Nidich S et al. Transcendental Meditation and reduced trauma symptoms in female inmates: a randomized controlled study. *The Permanente Journal* 2017 21(1):16-008. doi.org/10.7812/TPP/16-008
- 432. Elder C. Mind-body training for at-risk populations: preventive medicine at its best (editorial). *The Permanente Journal* 2017 21(1):16-174. doi. org/10.7812/TPP/16-174
- 433. Nidich S et al. Stress reduction with the Transcendental Meditation program in caregivers: a pilot study. International Archives of Nursing and Health Care 2015 1(2):011
- 434. Orme-Johnson DW, Barnes VA. Comment on 'Meditation programs for psychological stress and well-being'. *Journal of Alternative and Complementary Medicine* 2017 23(1):75-78. doi:10.1089 acm.2016.0273
- 435. Wendt S et al. Practicing Transcendental Meditation in high schools: relationship to wellbeing and academic achievement among students. *Contemporary School Psychology* 2015 19(4):312-319. doi:10.1007/ s40688-015-0066-6
- 436. Faber PL et al. EEG microstates during different phases of Transcendental Meditation practice. *Cognitive Processing* 2017 18(3):307-314. doi:10.1007/s10339-017-0812-y
- 437. Travis F. Transcending as a driver of development. Annals of the New York Academy of Sciences 2016 1373(1):72-77. doi:10.1111/nyas.13071
- 438. Travis F, Parim N. Default mode network activation and Transcendental Meditation practice: focused attention or automatic self-transcending? *Brain and Cognition* 2017 111:86-94. doi.org/10.1016/j. bandc.2016.08.009
- Dillbeck MC, Cavanaugh KL. Societal violence and collective consciousness: reduction of US homicide and urban violent crime rates. SAGE Open 2016 6(2):1-16. doi:10.1177/2158244016637891
- 440. Cavanaugh KL, Dillbeck MC. The contribution of proposed field effects of consciousness to the prevention of US accidental fatalities: theory and empirical tests. *Journal of Consciousness Studies* 2017 24(1-2):53-86.
- 441. Dillbeck MC, Cavanaugh KL. Group practice of the Transcendental Meditation® and TM-Sidhi® Program and reductions in infant mortality and drug-related death: a quasi-experimental analysis. SAGE Open 2017 7(1):1-15. doi:10.1177/2158244017697164
- 442. Cavanaugh KL, Dillbeck MC. Field effects of consciousness and reduction in US urban murder rates: evaluation of a prospective quasi-experiment. *Journal of Health and Environmental Research* 2017 3(3-1):32-43. doi:10.11648/j.jher.s.2017030301.13

- 443. Hatchard G, Cavanaugh KL. The effect of coherent collective consciousness on national quality of life and economic performance indicators an analysis of the IMD index of national competitive advantage. *Journal of Health and Environmental Research* 2017 3(3-1):16-31. doi:10.11648/j.jher.s.2017030301.12
- 444. Orme-Johnson DW. Factor analysis of social indicators in the Middle East: effects of cultural, military, political, and climatic events and group practice of the Transcendental Meditation and TM-Sidhi Program. *Journal of Maharishi Vedic Research Institute* 2016 1(1):5-39
- 445. Hypertension in adults: diagnosis and management. NICE clinical guideline CG127 (2011). www.nice.org.uk/guidance/cg127
- 446. Eckel RH et al. AHA/ACC guideline on lifestyle management to reduce cardiovascular risk: a report of the American College of Cardiology/ American Heart Association task force on practice guidelines. *Circulation* 2013. doi:10.1161/01. cir.0000437740.48606.d1
- 447. Maharishi Mahesh Yogi (1994). *Maharishi's Absolute Theory of Government*. Vlodrop, the Netherlands: Maharishi Vedic University Press.
- 448. Orme-Johnson DW et al. An experimental analysis of the application of the Maharishi Technology of the Unified Field in major world trouble spots: increased harmony in international affairs. In *Collected Papers, Volume 4* (pp. 2532-2548) see reference 2 in enclosure 7.
- 449. Nidich S et al. Non-trauma-focused meditation compared to exposure therapy in veterans with post-traumatic stress disorder: a randomised controlled trial. *The Lancet psychiatry*, online version, Nov 15 2018.
- 450. Bandy C et al. Meditation training in rook cadets increases resilience. 25th *Annual Conference of the Association for Psychological Science*. May 23-26 2013 Washington DC.
- 451. Swanson G, Oates R. Enlightened Management: Building High Performance People Fairfield Iowa, MUM Press 1989.
- 452. Hatchard GD *Discovering and Defending Your DNA Diet.* Safe Healthy Natural Publications 2017.
- 453 *FACT BOX:* Costs of war and recovery in Lebanon and Israel. *Reuters-on-line-world news* July 9 2007.
- 454 Hatchard GD Time Series Analysis of US and Canadian Inflation and Unemployment: A test of a Field Theory Hypothesis. Proceedings of the American Statistical Association, Business and Economics Section. Alexandria, Virginia: American Statistical Association, 1987 799-804.
- 455 Gowing S. What does the Maharishi Technology of the Unified Field mean for Social Work: a study in Australia. *BSW honors thesis. University of Sydney, Australia 1986*.
- 456 Pagnoni G et al. Thinking about Not-thinking. Neural correlates of conceptual processing during Zen meditation. PLOS ONE 2008 3(9) e3683.

- 457 Holzei BK et al. Differential engagement of anterior cingulate and adjacent medial frontal cortex in adept meditators and non-meditators. *Neuroscience letters* 2007 June 21 421(1):16-21.
- 458 Ludwig M et al. Functional Magnetic Resonance Imaging of Transcendental Meditation compared to rest and Benson's relaxation response, 2014 Alliant International University, San Diego Maharishi University of Management under journal review.
- 459 Cahn BR et al. Occipital gamma activation during Vipassana meditation. *Cognitive Processes* 2010 11:39-56.
- 460 Cahn BR et al. Meditation states and tracts: EEG, and neuroimaging studies. *Psychological Bulletin* 2006 132(2):180-211.
- 461 Persche H et al. The possible meaning of the upper and lower alpha frequency ranges for cognitive and creative tasks. *International Journal of Psychophysiology* 1997 1-3:77-97.
- 462 Pfurtscheller G et al. Event-related synchronization (ERS) in the alpha band- an electro physiological correlate of cortical idling: a review. *International Journal of Psychophysiology* 1996 1-2:39-46.
- 463 Wright et al. Impact of stress reduction interventions on hostility and ambulatory systolic blood pressure in African American adolescents. *Journal of Black Psychology* 2010 September 1:1-25.
- 464 Hughes et al. Randomised controlled trial of mindfulness-based stress reduction for hypertension. *Psychosomatic Medicine* 2013 75:721-728.
- 465 Military Medicine 2016 181(1):56-62
- 466 Heffner KL et al. Meditation for PTSD demonstration project: Final report to Mental Health Services Department of Veteran Affairs. Rochester, New York: Department of Psychiatry at the University of Rochester 2014.
- 467 Herron RE. The impact of the Transcendental Meditation program on the Post-traumatic Stress Disorder of veterans. *Military Medicines* 2016 (submitted).
- 468 Kearney DJ et al. Association of participation in a mindfulness program with measures of PTSD, depression and quality of life in a veteran sample. *Journal of Clinical Psychology* 2012 68(1):1-16.
- 469 Kearney DJ et al. Effects of participation in a mindfulness program for veterans with posttraumatic stress disorder: a randomized controlled pilot study. *Journal of Clinical Psychology* 2013 69(1):14-27
- 470 Goldsmith RE et al. Mindfulness-Based Stress Reduction for post-traumatic stress symptoms: building acceptance and decreasing shame. *Journal* of Evidence-Based Complementary and Alternative Medicine 2014 19(4):227-34
- 471 Bremner JD Mindfulness Based Stress Reduction in the treatment of Iraq combat-related PTSD. American Psychosomatic Society Conference 2011 San Antonio, Texas.

- 472 Haynes CT et al, The psychophysiology of advanced participants in the Transcendental Meditation programme: correlation of EEG coherence, creativity, H-Reflex recovery, and experiences of Transcendental Consciousness. *Collected Papers* 1, 208-212 see reference 2.
- Orme-Johnson DK, Improved Functional
 Organisation of the Brain through the Maharishi
 Technology of the Unified Field as indicated by
 Changes in EEG Coherence and its Cognitive
 Correlates: A proposed Model of Higher States
 of Consciousness, presented to the American
 Psychological Society Annual Convention, Los
 Angeles, California (September 1981) and the 15th
 Annual winter Conference on Brain Research,
 Steamboat Springs, Colorado (January 1982)
 Collected Papers 4 2245-2266 see reference 2.

THE NEXT STEP

The Consciousness Development Programme is the most researched programme for improving consciousness, and hence the quality of life, of individuals, organisations, societies, nations, and the world. The probabilities that the comprehensive and substantial social benefits reported are due to chance, is at a level far below that which is normally acceptable in the social sciences ranging from 1 in several thousand to 1 in several millions.

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