

## **TAI CHI CHUAN AND MENTAL HEALTH: BECOMING WELL BALANCED**

By Brian Corless - thanks to Brian for his permission to post this.

Research on Tai Chi Chuan over a number of years has shown that its health benefits are many and varied. At a personal level, perhaps you've noticed, if you are like me, that as we grow older our regular Tai Chi Chuan practice has helped our bodies to be better prepared for the normal processes of aging as muscles, joints and other tissues lose their elasticity (Lara et al., 2016; Sherratt, 2009). Others have also demonstrated that regular Tai Chi practice helps us maintain a degree of skeletal flexibility and strength, even if the aches and pains persist, and these benefits flow-on for our vascular and cognitive functioning as well ((Antunes et al., 2016; Barnes, 2015). I also know that in penning this article, I am preaching to the Tai Chi converted and that our collective challenge is to help others discover these benefits.

As important as these physical benefits are, regular practice of Tai Chi Chuan is as much of benefit for the mind, as it is for the body. The flow of endorphins in the brain and that "feel good" experience after a Tai Chi workout, certainly tells me that my mood and mind is benefiting from this regular practice. These positive feelings led me to wonder what the recent research says about Tai Chi and mental health and to put together a summary of some recent research studies, if only to confirm what we Tai Chi practitioners already know, intuitively. By way of introduction and to get a feel for the numbers involved in Tai Chi Chuan, I looked at a recent survey of the prevalence and patterns of Tai Chi practice in the U.S. (Lauche et al., 2016). From an analysis of the 2012 U.S. National Health Interview Survey of about 35,000 participants it was estimated that approximately 7 million people ( $\approx 3\%$ ) in the U.S., out of a population of about 240 million, have practised Tai Chi Chuan in their lifetime, and about 3 million ( $\approx 1\%$ ) have done so in the previous 12 months. The U.S. 12-month prevalence estimate for Tai Chi in 2012 showed only a slight increase ( $\approx 100,000$  participants) from the estimate of 2002, compared to the larger increase in estimated 12-month prevalence for Yoga participation, a comparable mind-body exercise, which rose from 10 million participants in 2002 to 21 million in 2012. It was suggested that a more aggressive marketing approach to publicly promoting Yoga in the U.S. may explain its success. Also, a disparity in the statistics was found in that younger age ranges are generally more represented in Yoga research, compared with older age ranges in Tai Chi research.

Unfortunately, similar information is not readily available for Tai Chi Chuan prevalence data in Australia. The Australian Bureau of Statistics (ABS) includes data for "Tai Chi" as part of a broad, overall "Martial Arts" category, whereas Yoga is treated as a distinct recreational activity category which has Australian prevalence data easily available. Perhaps this presents an opportunity for the Australian Tai Chi community to ask the ABS to publish category data for Tai Chi in its "Participation in Sport and Physical Activity" reports so that we can better understand how many people engage in Tai Chi practice in Australia, how often they participate and their characteristics. In order to promote the health benefits of Tai Chi Chuan in the future it would be useful to know where we are now.

For Tai Chi and mental health, a number of research articles have summarised its benefits as a means of promoting mental health and well being (Wang, Zhang et al., 2009; Wang, Bannuru et al., 2010; Field, 2011; Jimenez et al., 2012; Abbott & Lavretsky, 2013). In summary, these findings confirmed that the combination of regularly practiced relaxed, diaphragmatic breathing and gentle mindful movement creates a physiological and psychological environment that supports better mental health (Payne & Crane-Godreau, 2013). The Payne and Crane-Godreau

(2013) paper provides a good summary of the effects of “meditative movement”, including Tai Chi Chuan, on affective states along with pitfalls and problems in conducting this research. More recent review articles have attempted to further summarize the benefits of Tai Chi Chuan on mental health with mixed results. Wang, Lee et al., (2014) conducted a systematic review of 37 randomized controlled trials (RCTs) (from English and Chinese research databases) and offered qualified support for the practice of Tai Chi Chuan in reducing symptoms of depression, anxiety and general stress, and improving participant’s quality of life, overall. A meta-analysis was conducted examining the effects of Tai Chi Chuan versus a range of control groups, on symptoms of depression and it showed significantly reduced scores for depression in the Tai Chi group with an effect size = -6, (range 0 to -10). The authors recommended that Tai Chi Chuan become an integrated adjunctive component of existing treatments for depression, however noted limitations in the methods of the reviewed studies, leading them to call for more rigorous research designs for Tai Chi and mental health (Wang, Lee, et al., 2014).

Yin and Dishman (2014) examined the effects of Tai Chi Chuan and Qigong, as “mindful exercises”, on symptoms of depression and anxiety in a systematic review of English-only research studies and concluded that Tai Chi and Qigong have small to moderate effect sizes for reducing depression and anxiety, and that these effects are similar to other research supporting Western styles of physical exercise e.g. walking, cycling (Freeman et al., 2010). Specifically, for over 2,700 participants across 35 research studies, Tai Chi Chuan reduced symptoms of depression and anxiety overall, and interestingly those people with higher levels of depression at baseline, benefited the most from its anti-depressant effect. As with other reviews, the authors noted limitations in the design of a number of studies and these results need to be viewed cautiously, but are certainly encouraging.

Another selective systematic review of 10 research studies (Liu et al., 2015) examined the effects of Qigong and Tai Chi Chuan on symptoms of depression alone, and surprisingly found that Qigong reduced symptoms of depression, but not Tai Chi, which was contrary to other earlier systematic reviews (Wang, Bannuru et al., 2010; Chi et al., 2013). Liu et al (2015), suggested that the more “mindful” aspects of Qigong, by paying more attention to one’s inner experiences compared to Tai Chi Chuan may explain the difference in results. Again, limitations in the methodology and the poor quality of some of the studies reviewed could have confounded these findings.

Symptoms of insomnia often co-occur with symptoms of depression, and insomnia is seen as a significant risk factor for the onset of depression in younger and older age groups (Clark et al, 2015; Cockayne et al., 2015). In a systematic review of Chinese and English language RCTs, Wang et al (2016) examined the effects of “meditative movement” (MM; comprising Tai Chi Chuan, Qigong and Yoga) on insomnia and found that in 17 high-quality research studies (eight of which used Tai Chi Chuan as an intervention), MM had a positive effect on sleep quality in a variety of patient groups and may be a useful treatment for insomnia that is comorbid with other conditions, such as depression.

Also last year, Webster et al. (2016) in a review of Chinese and English research studies examined the effects of Tai Chi Chuan on the psychological health of over 9,000 college students. This systematic review found that the benefits of Tai Chi included increased physical flexibility, lung capacity, quality of sleep, and reduced symptoms of depression and anxiety and improved psychosocial well-being in these college students (Webster et al., 2016). In contrast to the earlier paper of Liu et al (2015), which found evidence in support of Qigong but not Tai Chi

for reducing symptoms of depression, the Webster et al (2016) paper concluded that the improved psychological and psychosocial functioning of college students was a result of “the deliberate mindfulness training of Tai Chi Chuan”. These results also indicated that although the stereotype of a Tai Chi Chuan practitioner is of someone of an older age group, its physical and psychological benefits can be found across all age ranges.

Finally, Solloway et al (2016) used an “evidence map” research technique to provide a broad overview of the effects of Tai Chi Chuan on a range of physiological and psychological health outcomes which had been published separately as RCTs in the past 5 years. RCTs are seen as the gold-standard research design when examining the effects of health interventions on health outcomes. Solloway et al (2016) highlighted the rapid increase in the publication of research on Tai Chi Chuan and health in the past 5 years and effectively conducted a broad review of 107 systematic reviews of RCTs involving Tai Chi Chuan as a health intervention. The authors concluded that the regular practice of Tai Chi Chuan has benefits for general health (51 RCTs), psychological well-being (37 RCTs), interventions for older adults (31 RCTs), balance (27 RCTs), hypertension (18 RCTs), falls prevention (15 RCTs), and cognitive performance (11 RCTs). Specifically, for Tai Chi Chuan and mental health, an evidence map of 13 previous systematic reviews examining Tai Chi Chuan and symptoms of depression found that Tai Chi Chuan had a beneficial anti-depressant effect across these studies.

Overall, these results are encouraging for the effects of regular Tai Chi Chuan practice on symptoms of depression and improving mental health generally, however limitations of small sample sizes, unclear research designs and an absence of longer-term follow-up studies were highlighted as deficiencies in the research (Solloway et al., 2016). These conclusions will hopefully lead researchers to address these limiting factors in future as the popularity and interest in Tai Chi Chuan increases.

In these busy lives that we lead nowadays, taking the time to relax and mindfully contemplate is certainly a gift that we can willingly give ourselves and others. If we include the gentle movements of a Tai Chi Chuan form with intention, into this mindful practice, then we are closer to balancing the “three adjustments” in Traditional Chinese Medicine of body, breath and mind (Liu, 2010). Whether your Tai Chi Chuan is martial or practised for health, the benefits are there to be experienced for mind and body, and the current research supports this. But then again, didn't we know that already?

*Editor's Note: Brian Corless is a Clinical Psychologist on the NSW south coast and practises Tai Yi Tai Chi Chuan under the tutelage of Sifu Wang Yun Kuo, Kungfu Republic Academy, Sydney. (Copyright Feb 2017 of the composition of this article remains with Brian.)*

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