

# Effectiveness of a Mind-Body Practice (Qi Gong) in Treating PTSD

## For a Local Cohort of ADF Returned Service Personnel: A Pilot Study

By Dr. Terry Olesen, Private Practice Psychologist, Coomera, QLD

### Claim

The Warrior Revival Program stands out as a **Best Practice Recovery Program** for ex-serving Army, Navy and Air Force personnel drawn from the Australian Defence Force (ADF).

This is a summary of a recent exploratory pilot study, which found a local Qi Gong trial intervention to be effective in reducing PTSD and Acute Stress among Returned ADF Personnel in the Gold Coast, Queensland.

Results, which follow on next few pages in the form of Graphs and Tables, show that various aspects of Stress Reduction have been achieved over the course of the program (10 days).

### Evidence

A repeated measures research pilot was set up to find out if a trial 10-day Training called Warrior Revival could help stabilize, mitigate and/or reverse the adverse effects of battle induced trauma for returning ADF personnel.

The author, Psychologist Dr. Terry Olesen, was employed by Warrior Revival as the part time consultant to set up the basic design using repeated measures of the Outcomes Questionnaire 45.2. (He was not a participant in the Training but a small research honorarium was granted him by Yang Mian System International).

The OQ45.2 was administered to 10 ADF ex-serving personnel (nine men, one woman) who served as participants. These Participants have at this time been sampled so far at three Time Points ('Rounds')

The time points and the study design are illustrated on the following page.

The OQ45.2 is a composite Distress & Wellbeing Measure. It is well researched over the last 20 years and has been used in over 50 major studies of treatment and recovery from critical events (trauma), injury and sickness. The OQ45.2 measures three dimensions, all relating to adult human health and normal functioning: **Symptom Distress** (including anxiety, affective and adjustment disorders as well as stress related illnesses); **Interpersonal Relations** (spouse, children, friends); and **Social Role** (integration into the civilian roles of work, study, and family).

The OQ45.2 meets all major psychometric requirements for validity, reliability, and face value; and its designers have gathered/measured comparison data sets (norms) across many different populations, both civilian and non-civilian.

The most recent Warrior Revival 10-day intensive training was held 14 Feb 2019 through 23 Feb 2019, and was led by Qi Gong Master Teacher, Mr. Zhenhua Yang of Yang Mian System International.

Graphic One depicts the study design.

Graphic Two depicts a table showing score outcomes over 3-month timeframe, for each of the 9 individuals studied.

Graphic Three depicts the OQ45.2 total score results across 3 time points and their statistical significance

Graphic Four depicts the OQ45.2 difference scores, that is the difference between Time Point 1 (13-02-19) and Time Point 2 (18-02-19).

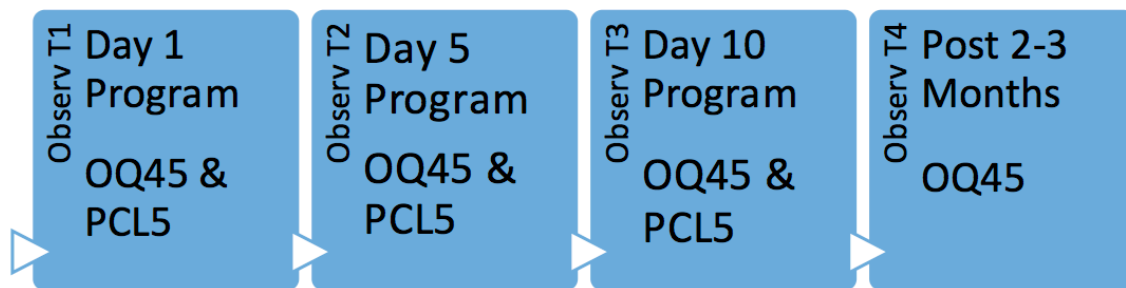
Graphic Five depicts the OQ45.2 difference scores, that is the difference between Time Point 2 (18-02-19) and Time Point 3 (23-02-19), i.e. scores at final day of Training.

Graphic Six depicts the OQ45 total score results across 4 time points and their statistical significance.

# WARRIOR REVIVAL COHORT 2

## Research Design

### (February 2019, 10 days Training)



Graphic 1

Participant	Round 1 (OQ45)	Round 2 (OQ45)	Round 3 (OQ45)	Round 4(OQ45)
1	109	92	105	43
2	107	66	33	33
3	121	96	88	
4	63	19	17	36
5	131	100	94	100
6	44	28	23	26
7	50	35		53
8	94	85	73	71
9	135	95	64	84
10	96	80	56	84

Graphic 2

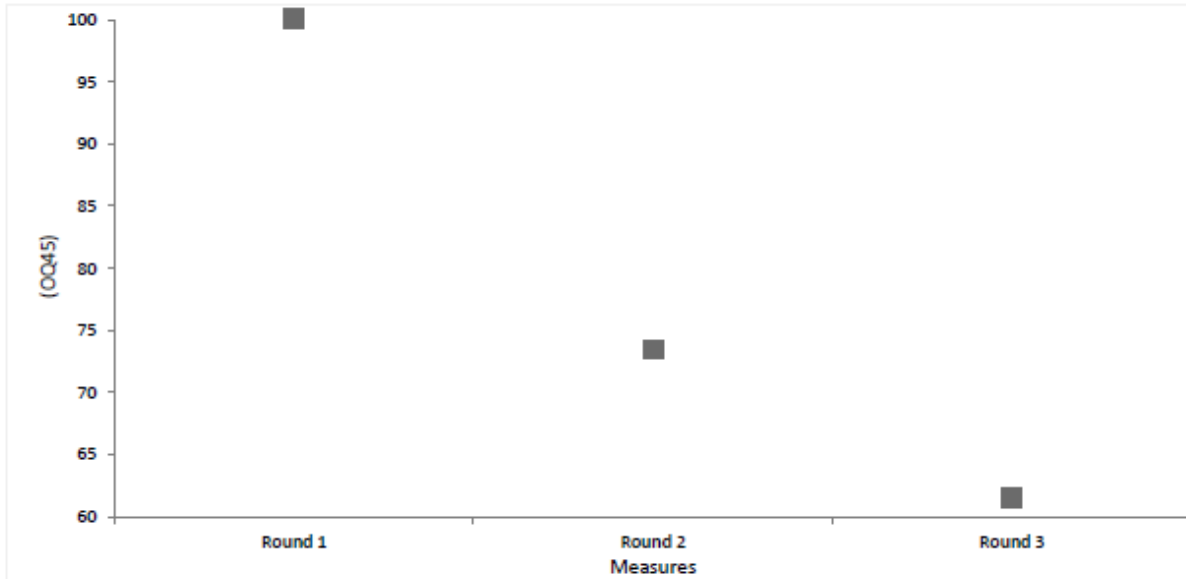
## Compare Pairs: Round 1, Round 2, Round 3

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### Descriptives



N	Minimum	1st Quartile	Median	3rd Quartile	Maximum
Round 1	44	83.7	107.0	124.3	135
Round 2	19	53.3	85.0	95.3	100
Round 3	17	29.7	64.0	90.0	105

### Location

#### Friedman test

	n	Rank sum	Mean rank
Round 1	9	27.0	3.00
Round 2	9	17.0	1.89
Round 3	9	10.0	1.11

S statistic	16.22
X <sup>2</sup> approximation	16.22
DF	2
p-value	0.0003

H0:  $\theta_1 = \theta_2 = \theta_3$

The median of the populations are all equal.

H1:  $\theta_i \neq \theta_j$  for at least one  $i, j$

The median of the populations are not all equal.

### Graphic 3

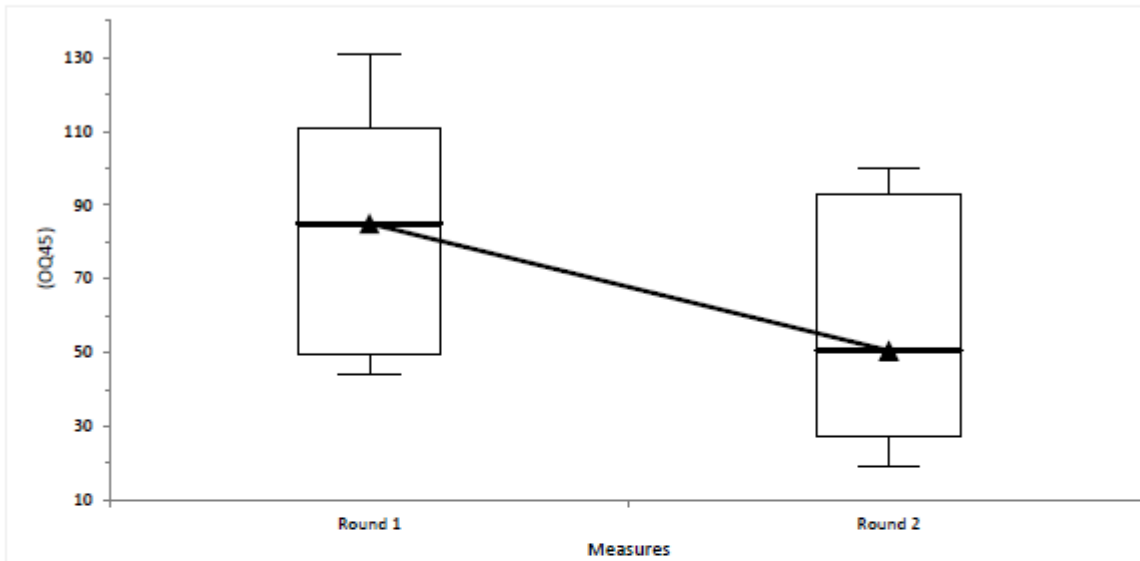
## Compare Pairs: Round 1, Round 2

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### Descriptives



N	Minimum	1st Quartile	Median	3rd Quartile	Maximum
Round 1	44	49.5	85.0	110.8	131
Round 2	19	27.3	50.5	92.7	100

### Location

Hodges-Lehmann shift | -28.5  
 96.88% CI | -44.0 to -15.0

$$F_{(\text{Round 2})} = F_{(\text{Round 1} + \Delta)}$$

#### Wilcoxon test

Hypothesized difference | 0

Sign	n	Rank sum	Mean rank
Positive	0	0.0	-
Negative	6	21.0	3.50
Zero	0		

T statistic | 0.00  
 Exact p-value | 0.0313

H0:  $\Delta = 0$

The shift in location between the distributions of the populations is equal to 0.

H1:  $\Delta \neq 0$

The shift in location between the distributions of the populations is not equal to 0.

### Graphic 4

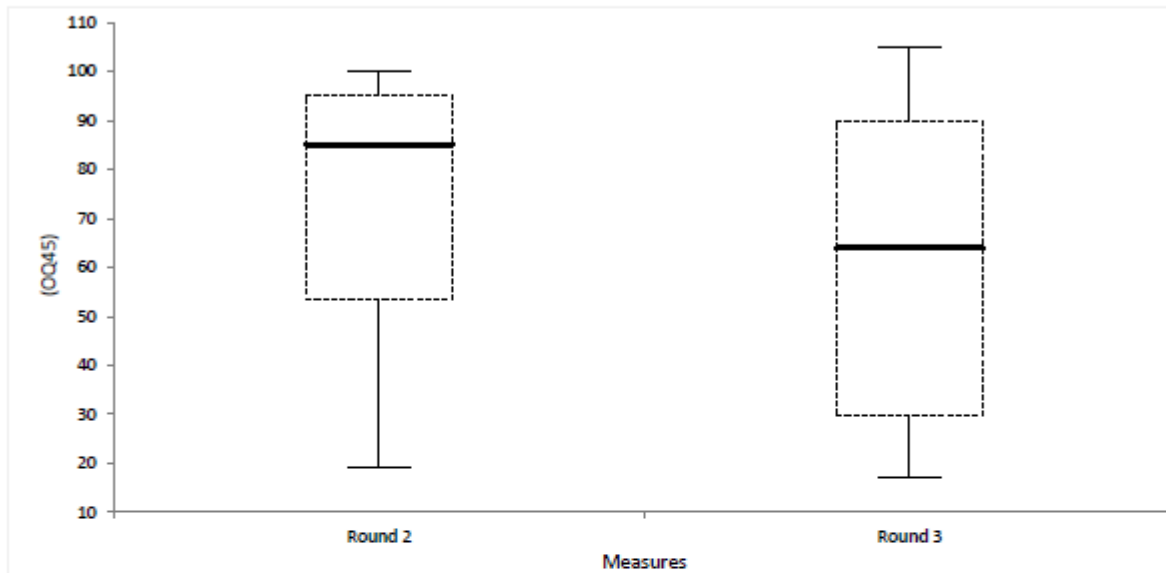
## Compare Pairs: Round 2, Round 3

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### Descriptives



	N	Mean	Mean SE	SD
Round 2	9	73.4	10.06	30.2
Round 3	9	61.4	10.60	31.8

	Minimum	1st Quartile	Median	90% CI	3rd Quartile	Maximum
Round 2	19	53.3	85.0	28.0 to 96.0	95.3	100
Round 3	17	29.7	64.0	23.0 to 94.0	90.0	105

### Location

#### Friedman test

	n	Rank sum	Mean rank
Round 2	9	10.0	1.11
Round 3	9	17.0	1.89

S statistic	5.44
X <sup>2</sup> approximation	5.44
DF	1
p-value	0.0196

H0:  $\theta_1 = \theta_2 = \theta_{..}$

The median of the populations are all equal.

H1:  $\theta_i \neq \theta_j$  for at least one  $i, j$

The median of the populations are not all equal.

### Graphic 5

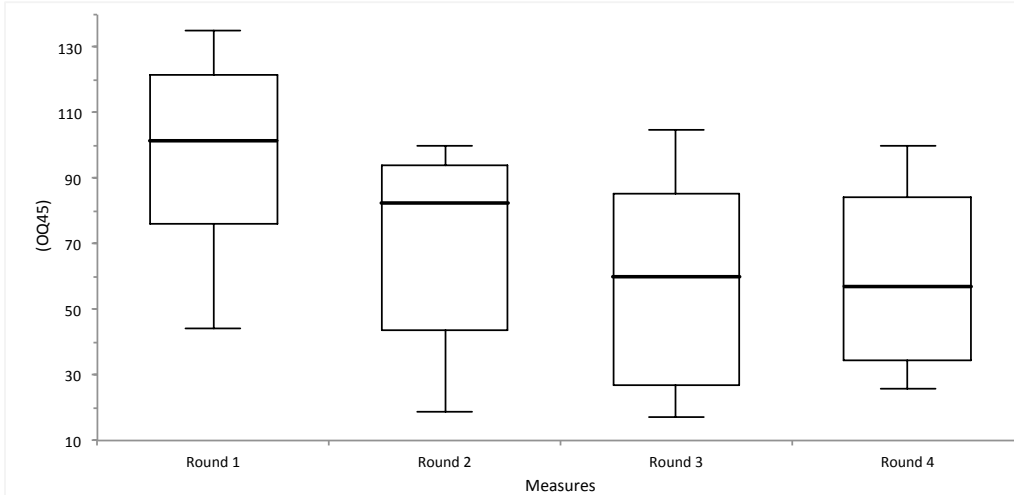
**Compare Pairs: Round 1, Round 2, Round 3, Round 4**

BasicCF&Diff A1:E11

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**Descriptives**



N | 8

	Minimum	1st Quartile	Median	3rd Quartile	Maximum
Round 1	44	75.9	101.5	121.8	135
Round 2	19	43.8	82.5	93.8	100
Round 3	17	27.2	60.0	85.3	105
Round 4	26	34.3	57.0	84.0	100

**Location**

Friedman test

	n	Rank sum	Mean rank
Round 1	8	32.0	4.00
Round 2	8	20.5	2.56
Round 3	8	11.5	1.44
Round 4	8	16.0	2.00

S statistic	17.88
X <sup>2</sup> approximation	17.88
DF	3
p-value	0.0005

H0:  $\theta_1 = \theta_2 = \theta_3 = \theta_4$

The median of the populations are all equal.

H1:  $\theta_i \neq \theta_j$  for at least one i,j

The median of the populations are not all equal.

**Graphic 6**

## Conclusions

The statistical analysis (Friedman's S Statistic) shows statistical significance for the differences for the Time Points comparisons of R1 when compared to R2, R3 and R4.

This supports the hypothesis of decline in PTSD/Distress (and thus mental and social health improvement) as measured by the OQ45.2

In a set of business case presentations to the Army, Returned Services League (RSL) and the DVA (July 2018 through to July 19) an Australian Special Forces Member compiled and summarized the current body of literature on Qi Gong and some related physical and bioenergetics disciplines such as Mind-Body Practices, Movement Meditation, Yoga, and Tai Chi.

In addition to the scientific, clinical, and anecdotal evidence the Special Forces Member collated, he has also written and given presentations on his own personal experience in overcoming trauma via Qi Gong over the last 2.5 years.

Overall this pilot study supports the claim that ADF Veterans who are suffering PTSD, ASD, and psychosomatic disorders, have been assisted in their Recovery using Qi Gong, a body based stress-reducing intervention.

This study stands not alone. There are many studies, mainly in the USA and Canada, which support the use of Chi Gong and other "meditative movement" or Mind-Body Practices therapies in the post-warzone treatment of PTSD and chronic stress.

These other studies are listed below for your consideration.

## Bibliography Supporting Use of Qi Gong and other Movement Therapies

Robin E. Cushing and Kathryn L. Braun. The Journal of Alternative and Complementary Medicine. Feb 2018. <http://doi.org/10.1089/acm.2017.0176>

Chenchen Wang, Raveendhara Bannuru, Judith Ramel, Bruce Kupelnick, Tammy Scott and Christopher H Schmid. *BMC Complementary and Alternative Medicine: The official journal of the International Society for Complementary Medicine Research (ISCMR)* 2010. 10:23 <https://doi.org/10.1186/1472-6882-10-23>

Payne, P., & Crane-Godreau, M. A. (2013). Meditative Movement for Depression and Anxiety. *Frontiers in Psychiatry*, 4, 71. <http://doi.org/10.3389/fpsy.2013.00071>

Military-Tailored Yoga for Veterans with Post-traumatic Stress Disorder. *Cushing RE, Braun KL, Alden C-layt SW, Katz AR. Mil Med.* 2018 May 1; 183(5-6):e223-e231. <https://www.ncbi.nlm.nih.gov/pubmed/28880607>

Kim SH, Schneider SM, Kravitz L, *et al* Mind-Body Practices for Posttraumatic Stress Disorder *Journal of Investigative Medicine* 2013;61:827-834.