RESURFACE

Resurface Research
2018/19

Resurface Research – Morocco February 2018/ March 2019/September 2019 – Initial Findings

1. Aims of the research

The therapeutic effects of surfing are becoming increasingly evident in psychological research. Recent studies have started to document how surfing can lead to improvements in post-traumatic stress disorder, anxiety and depression[1].

There are various reasons why surfing might have such a positive impact on mental health. The most obvious being participating in physical activity, but other important factors might be engaging in a group activity and experiencing flow states.

Flow is the optimal state of total absorption in the current task you are doing; be it running, surfing or playing an instrument. Everything else disappears and you are completely in the zone[2]. Resurface therapy retreats are based on integrating flow through surfing into trauma treatment, as well as encouraging interoception and engaging in experiential group therapy.

Evidence-based practice is fundamental to our ethos at Resurface, therefore we recruited an independent researcher to carry out an analysis of two retreats in Morocco. This intervention study was conducted to investigate whether taking part in a Resurface retreat is associated with improvements in mental health.

Our key research question was to investigate whether there were significant differences in anxiety, depression and changes in outlook following both the trauma resolution and the positive psychology programmes pre-retreat and post-retreat.

2. Details of the study

In this study, **anxiety**, **depression** and **change in outlook** were measured at baseline (pre- retreat) and post-retreat. Baseline scores were taken on the first day before treatment began, and post-retreat scores were taken on the last day before departure.

Trauma Resolution Retreat

Ten participants took part with an average age of 41 (range: 22 - 56 years). The retreat consisted of 5 treatment days with one day off in the middle.

Each participant was enrolled in the following schedule:

7am - 8am: Body-work group – focusing on interoception with yoga therapist

8am - 9am: Breakfast

9am-10am: Psycho-education – lecture/workshop hosted by lead clinician on trauma recovery

10.30-12.30: Surf lesson

12.30-15.30: Lunch and down time, with option to surf again

15.30-17.30: Experiential group therapy with lead clinician

18.00-19.00: Mindfulness with yoga therapist

19.00 onwards: Dinner and down time

3. Main research findings

- **Significant reduction in anxiety**

- **Significant reduction in depression**

- **Significant improvement in outlook following trauma**

Anxiety

Anxiety was measured using the standardised Generalised Anxiety Disorder (GAD-7) questionnaire, which is highly reliable and commonly used in NHS practice in the UK[3].

A paired sampled t test showed a statistically significant improvement in anxiety from baseline to post-retreat (p=.038), whereby the mean score was reduced from 10.9 (SD= 3.5) before treatment to 7.7 (SD= 4.6) post treatment (see Figure 1).
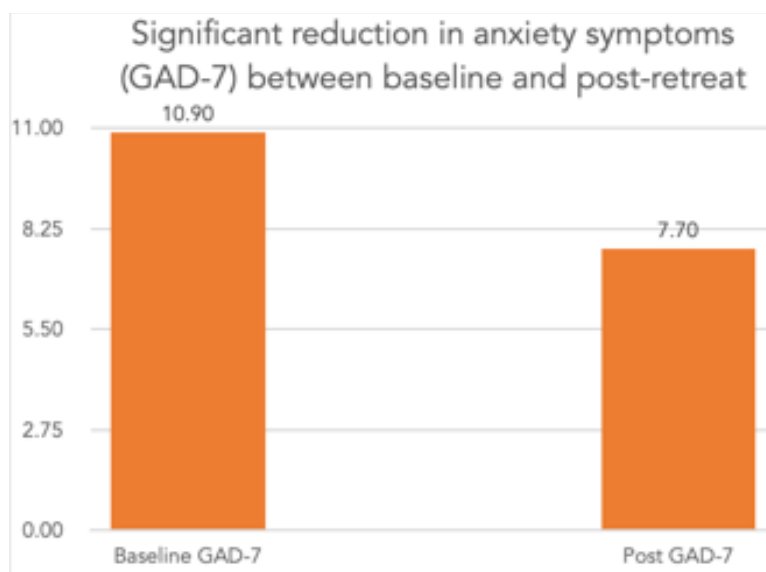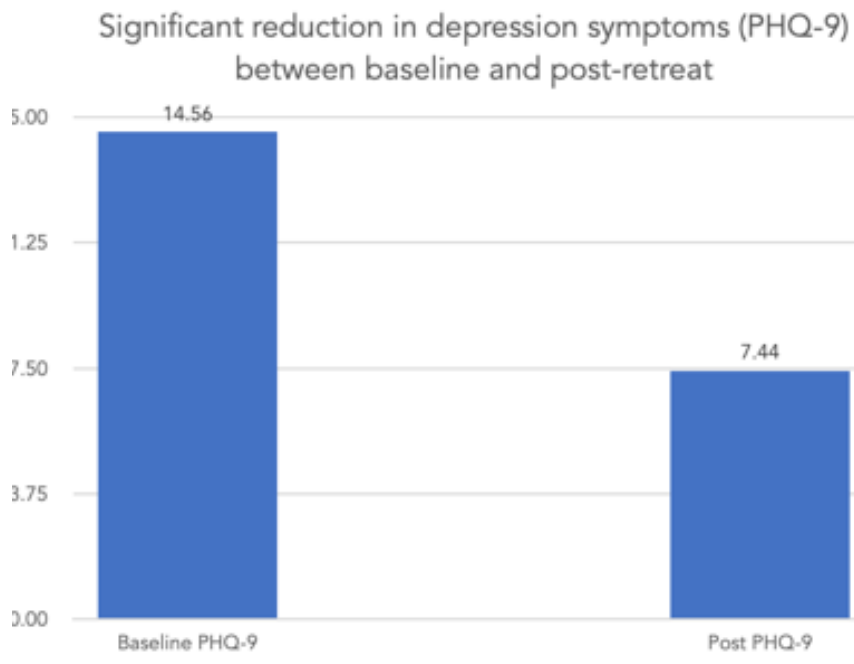

Difference in mean anxiety score from baseline to post-retreat

Figure 1: Bar chart indicating significant reduction in anxiety score on the GAD-7 from baseline (M=10.9, SD= 3.5) to post-retreat (M= 7.7, SD= 4.6), p=.038.

Depression

Depression was measured using the PHQ-9, a standardised measure commonly used in clinical practise alongside the GAD-7.

Here, a significant reduction was also found in mean depression score (p=.001). The average score before the retreat was 14.56 (SD= 5.4), and this dropped to 7.44 (SD= 5.7) following the retreat (see Figure 2). According to the PHQ-9 guidelines[4], this depression score lowered from the high end of the moderately severe depression category to the lower end of moderate depression category.


Difference in mean depression score from baseline to post-retreat

Figure 2: Bar chart indicating significant reduction in score on the PHQ-9 from baseline (M= 14.56, SD= 5.4) to post-retreat (M= 7.44, SD= 5.4), p= .001.

Change in Outlook

The Change in Outlook Questionnaire (CiOQ) is a common measure in post-traumatic growth research[5]. This questionnaire measures positive and negative change in outlook following trauma, where a higher score indicates higher positive change. An increased score over time is suggested to be reflective of post-traumatic growth.

The analysis showed a statistically significant increase in change in outlook score (p=.046), indicating significant post-traumatic growth from baseline to post-retreat (see Figure 3). The mean scores increased from 101.5 (SD= 18.6) to 110.4 (SD= 18.9).
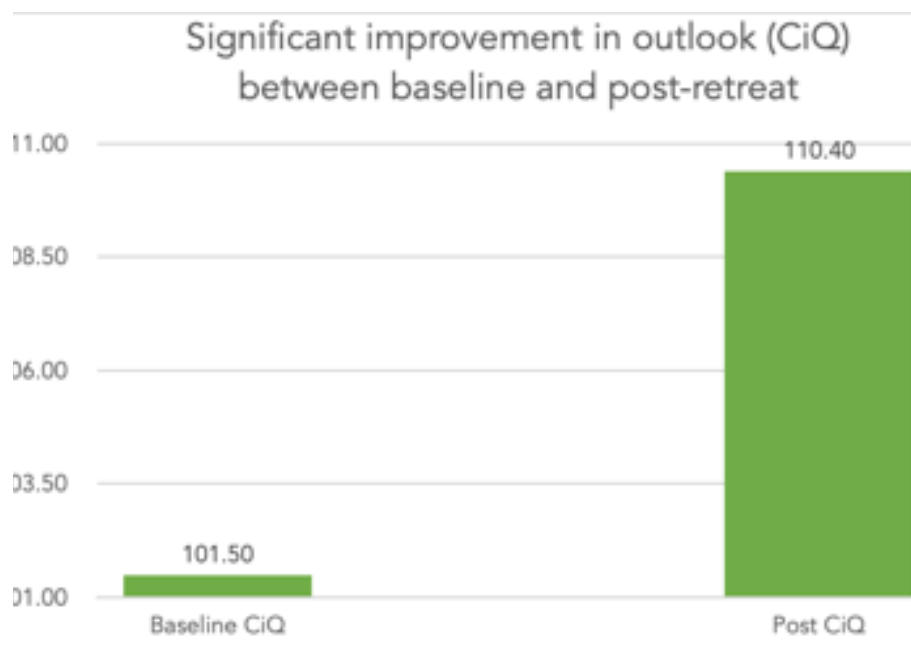
Resilience and Flow Retreat March 2019

Eight participants took part with an average age of 37 (range: 25 - 64 years). The retreat consisted of 5 treatment days with one day off in the middle.

Each participant was enrolled in the following schedule:

7am - 8am: Body-work group – focusing on interoception with yoga therapist

8am - 9am: Breakfast

9am-10am: Psycho-education – lecture/workshop hosted by lead clinician on positive psychology

10.30-12.30: Surf lesson

12.30-15.30: Lunch and down time, with option to surf again

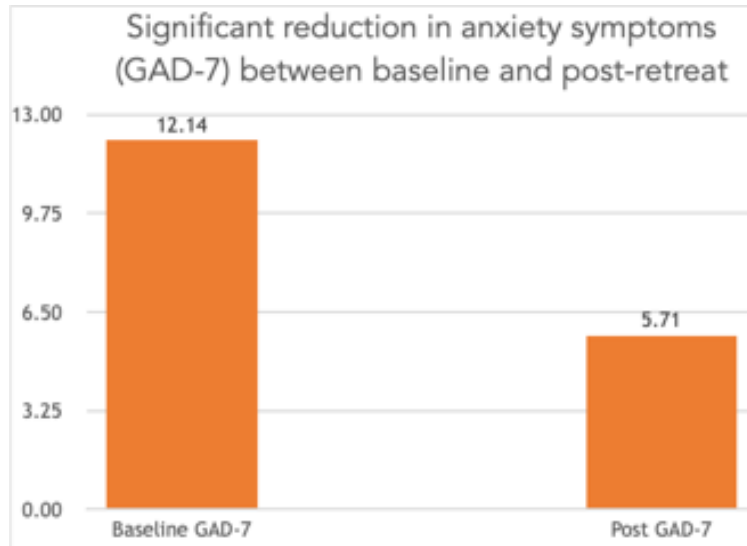**15.30-17.30**: Experiential group therapy with lead clinician

18.00-18.30: HRV Coherence training

18.30-19.00: Yin Yoga interception class

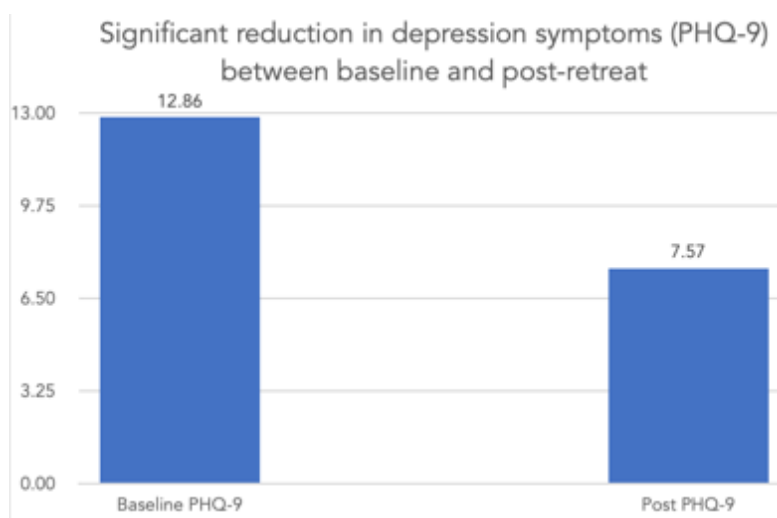**19.00 onwards**: Dinner and down time

Main research findings

- **Significant reduction in anxiety**

Significant reduction in anxiety symptoms (GAD-7) between baseline and post-retreat

13.00	
	12.14
9.75	
6.50	5.71
3.25	
0.00	
Baseline GAD-7	Post GAD-7

Anxiety: significant reduction in mean score on the GAD-7 between baseline (M=12.14, SD=6.67) and post-retreat (M=5.71, SD=2.69), t(6)= 2.948, p < .05.
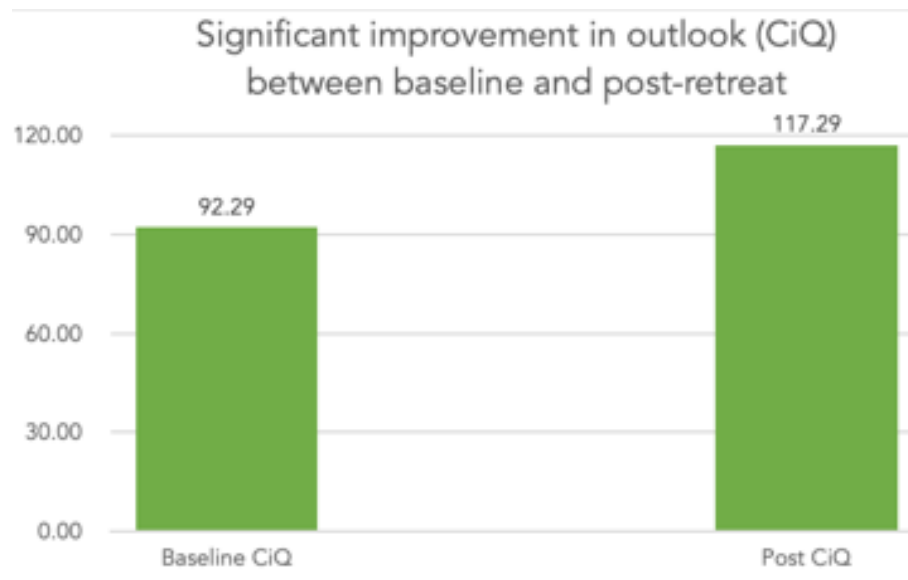
- **Significant reduction in depression**

Significant reduction in depression symptoms (PHQ-9) between baseline and post-retreat

13.00	12.86
9.75	
6.50	7.57
3.25	
0.00	
Baseline PHQ-9	Post PHQ-9

Depression: significant reduction in mean score on the PHQ-7 between baseline (M=12.86, SD=6.72) and post-retreat (M=7.57, SD=1.46), t(6)= 3.161, p < .05.

- **Significant improvement in outlook**

Change in outlook: significant improvement in mean outlook score between baseline (M=92.29, SD=10.89) and post-retreat (M=117.29, SD=9.93), t(6)= -6.159, p < .01.

4. Interpreting the findings and next steps

The research findings detailed above suggest that attending both Resurface retreats was associated with improved anxiety, depression and change in outlook. However, some caution must be taken when interpreting the findings. Firstly, the structure of the Resurface retreat only accommodates for 10 individuals in order to provide a holistic treatment programme for the participants. In terms of research, this is a very small sample and lacks statistical power, therefore strong claims cannot be made based on the findings.

Secondly, there appears to be a lot of variation in the scores in that some of the standard deviations are high. This could be dependent upon the fact that there was high variability in the causes and severity of post- traumatic stress in the participants. Given that this retreat is open to all individuals who have experienced trauma or depression, regardless of the nature of their experience, it is not possible to control for the high level of individual differences in the research.

Finally, the post-retreat measure was taken immediately after the programme was completed, and therefore the reductions in feelings of anxiety and depression, for example, may be inflated. In order to examine this issue, participants will be contacted at 3 and 6-month follow up to assess whether the effects evidenced here were sustained over time. Another point to note is that while the measures used in this study are reliable and have been validated in previous research, there are limitations to the depth of data that can be retrieved from questionnaires. Moreover, participants may not respond as conscientiously as if the researcher had asked the questions in an interview. This will be addressed in the next study by implementing both qualitative and quantitative measures.

References:

1. Rogers, C. M., Mallinson, T., & Peppers, D. (2014). High-intensity sports for posttraumatic stress disorder and depression: Feasibility study of Ocean Therapy with veterans of Operation Enduring Freedom and Operation Iraqi Freedom. *American Journal of Occupational Therapy*, *68*(4), 395-404.

2. Csikszentmihalyi, M. (1992). *Flow: The psychology of happiness.* London: Rider.

3. Kroenke, K., Wu, J., Yu, Z., Bair, M. J., Kean, J., Stump, T., & Monahan, P. O. (2016). The patient health questionnaire anxiety and depression scale (PHQ-ADS): initial validation in three clinical trials. *Psychosomatic Medicine*, *78*(6), 716.

4. Kroenke K, Spitzer R L, Williams J B (2001). The PHQ-9: validity of a brief depression severity measure. *Journal of General Internal Medicine*, 16(9): 606-613.

RESURFACE – September 2019 Results

Descriptive Statistics

Descriptive Statistics

	PHQ-9pre	PHQ-9post	GAD-7pre	GAD-7post	CiQpre	CiQpost
Valid	10	10	10	10	10	10
Missing	0	0	0	0	0	0
Mean	11.200	5.200	11.700	6.400	101.000	119.600
Std. Deviation	6.795	3.259	4.715	5.060	17.764	14.946
Minimum	2.000	0.000	6.000	1.000	81.000	96.000
Maximum	21.000	9.000	20.000	18.000	134.000	139.000

Paired Samples T-Test

Paired Samples T-Test

	t	df	p	Cohen's d
PHQ-9pre - PHQ-9post	3.133	9	0.012	0.991
GAD-7pre - GAD-7post	2.932	9	0.017	0.927
CiQpre - CiQpost	-4.213	9	0.002	-1.332

Note. Student's t-test.

Change in outlook: significant improvement in mean outlook score between baseline (M=101.00, SD=17.76) and post-retreat (M=119.600, SD=14.95), $t(9)$= -4.213, $p < .01$, $d = 1.33$

Significant improvement in positive outlook
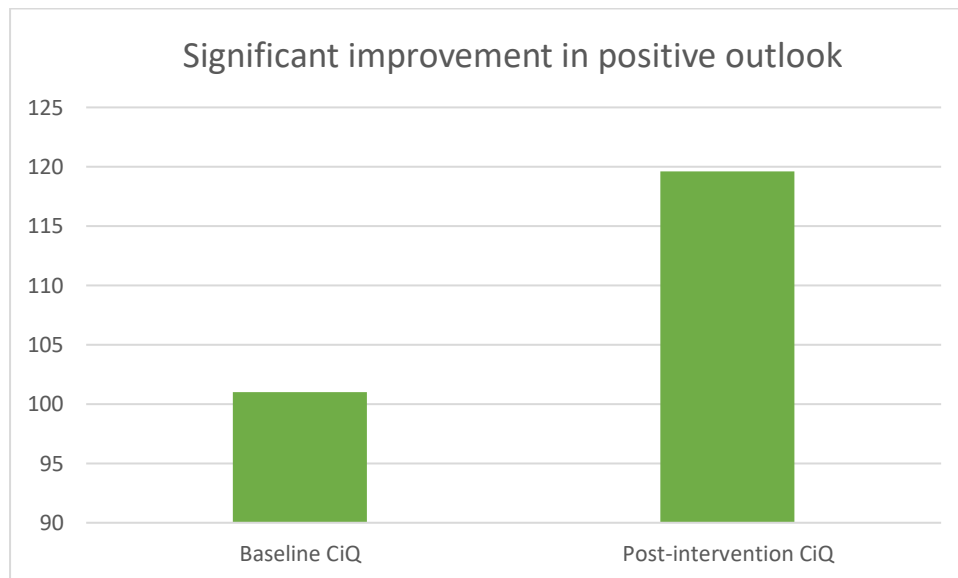
Anxiety: significant reduction in mean score on the GAD-7 between baseline (M=11.70, SD=4.72) and post-retreat (M=6.40, SD=5.06), $t(9)$= 2.932, $p < .05$, $d = 0.93$

Significant reduction in symptoms of anxiety
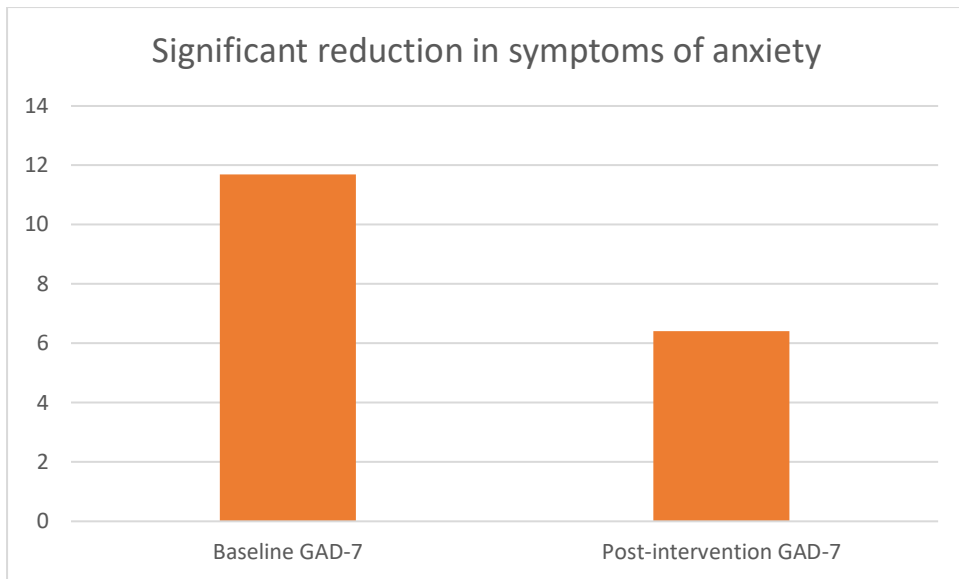
Depression: significant reduction in mean score on the PHQ-7 between baseline (M=11.20, SD=6.79) and post-retreat (M=5.20, SD=3.26), $t(9)= 2.932$, $p < .05$, $d = 0.99$

Significant reduction in symptoms for depression