

## **Outcome Measures Study**

We are pleased to report on the results from the preliminary data collected in a study looking at outcome measures from 205 clients who attended a Lightning Process seminar. The study, which has been done using the RAND SF-36, is a pilot study that was designed to provide some preliminary outcome measures which can be used to add weight to future grant and funding applications for larger-scale Randomised Controlled Trials (RCT).

The information given below reflect the results to date after clients completed RAND SF-36 questionnaires before they attended the course, at 6 weeks after attending the course and at 3 months after attending the course.

The study is not complete as yet, as further data is being collected at 6 months and 12 months after attending the course.

The data is part of an outcome measure study rather than a RCT (or compared against any control group) and can therefore only reflect a cross-sectional follow-up tracing improvements with those participants who attended the LP course. All client diagnoses used in this data collection are provided by the clients - who also provided the names of the medical staff who gave them the diagnosis.

The data has been independently analysed by a UK Research Establishment.

## Lightning Process: Preliminary SF-36 Outcomes Data

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### Analysis:

Repeated measures ANOVAs using Time of Testing (3 levels; Pre-test, 6 weeks, 3 months) were computed to analyse the 9 dimensions of the RAND SF-36: Health change, physical functioning, role limitations due to physical health, role limitations due to emotional problems, energy/fatigue, emotional well-being, social functioning, pain and general health. Greenhouse-Geisser post-hoc corrections and Bonferroni post-hoc comparisons were applied. Descriptive Statistics are reported as Means and Standard Deviations. Missing data was excluded from the analysis.

### Participants:

A total of 205 participants had completed the Lightning Process Training Programme. Mean age of participants at time of entry to the programme was 37.4 years of age (SD=15.6 years). Twenty percent of participants were male (N=41) and 80% were female (N=164; see Figure 1). Primary self-reported diagnoses and reasons for programme attendance were predominantly for fatigue-related syndromes such as Myalgic Encephalomyelitis or Chronic Fatigue Syndrome (64.4%, N=132). Anxiety/Depression disorders were also common, with 17.1% of participants (N=35) reporting Anxiety/Depression. 2.9% of participants reported suffering from Multiple Sclerosis (N=6) and a further 2.9% of participants reported the diagnosis of Fibromyalgia (N=6). Further reasons for attendance were given such as low self-esteem (2.4%, N=5), chronic pain (1.5%, N=3), addictive disorders (1%, N=2), Obsessive Compulsive Disorder (0.5%, N=1) or other/unknown diagnoses (7.3%, N=15). Diagnoses are given in Figure 2.

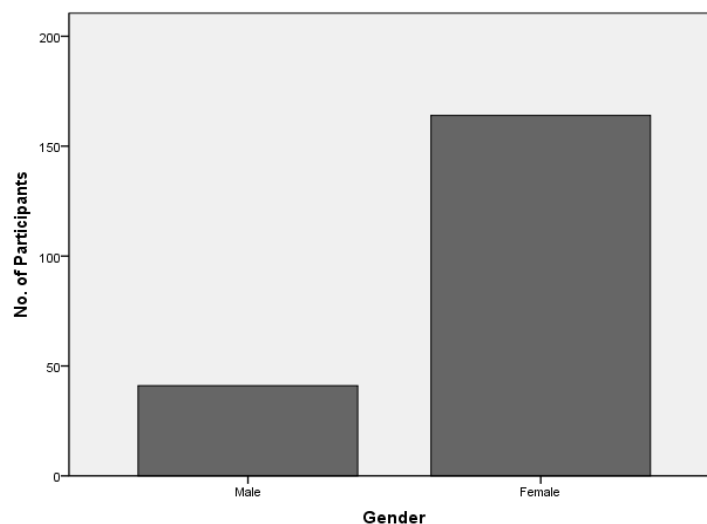


Figure 1: No. of participants according to gender.

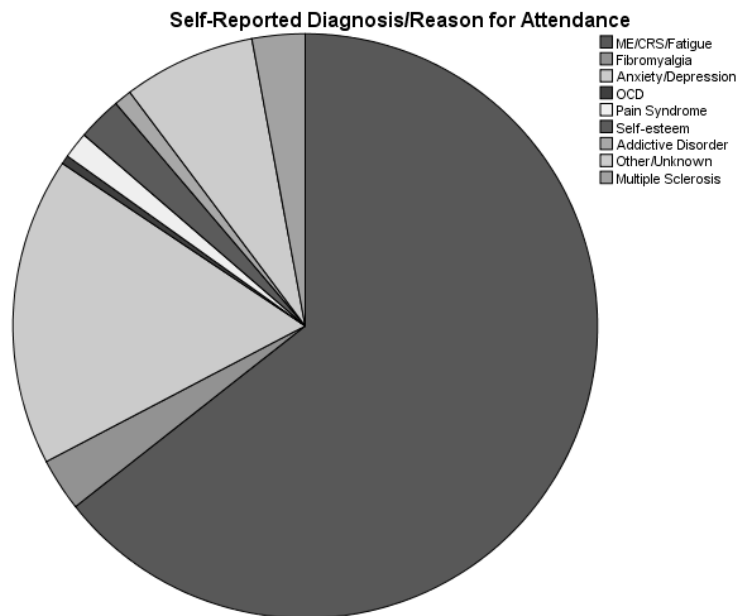


Figure 2: Self-reported diagnoses and reasons for Lightning Process training programme attendance

## Results

Repeated Measures ANOVAs showed a significant difference in all sub-scales of the RAND SF-36 across Time of Testing: Health change ( $F(1,70)=103.19, p<.0001$ ); Physical Functioning ( $F(2, 146)=92.45, p<.0001$ ); Role limitations due to Physical Health ( $F(2, 144)=54.01, p<.0001$ ); Role limitations due to emotional problems ( $F(2, 146)=32.62, p<.0001$ ); Energy/fatigue ( $F(2, 132)=23.77, p<.0001$ ); Emotional well-being ( $F(2, 144)=13.29, p<.0001$ ); Social functioning ( $F(2, 122)=63.84, p<.0001$ ); Pain ( $F(2, 148)=39.41, p<.0001$ ); and General Health ( $F(2, 128)=41.75, p<.0001$ ). This indicates the Lightning Process does impact upon all dimensions of health tested by the SF-36.

All sub-scales of the RAND SF-36 showed significant improvements across Time of Testing, with health status improving from pre-Lightning Process to the 6 week follow-up ( $p<.0001$ ). Improvements persisted at 3 months for all dimensions ( $p<.0001$ ) except in the two emotion-related dimensions: Role limitations due to emotional problems and Emotional well-being. The majority of the sub-scales showed that health status between 6 weeks and 3 months showed no further significant improvement, indicating that improvements plateaued during this period and therefore health status at 6 weeks was maintained at 3 months. However for the energy/fatigue dimension, participants showed consecutive increases in their energy levels, exhibited through a significant increase between pre-test and 6 weeks ( $p<.0001$ ) and again from 6 weeks to 3 months ( $p<.05$ ; see Figure 3).

Table 1: Descriptive statistics for sub-scales of the RAND SF-36. NB. Data for 6 and 12 months is currently in collection.

	Pre-LP		6 weeks		3 months		6 months		12 months		p
	M	SD	M	SD	M	SD	M	SD	M	SD	
Health Change	22.54	31.95	71.83	37.54	73.59	37.53					.0001
Physical Functioning	56.76	27.25	84.39	21.92	85.47	19.34					.0001
Physical Role Limitations	21.58	37.11	65.07	38.13	65.07	39.69					.0001
Emotional Role Limitations	49.12	44.23	84.23	29.31	81.98	31.79					.0001
Energy/Fatigue	33.58	26.11	63.43	18.77	84.78	68.60					.0001
Emotional Well-being	64.27	13.99	84.99	36.56	75.62	14.41					.0001
Social Functioning	51.54	29.13	87.94	16.53	85.96	20.87					.0001
Pain	41.40	31.07	68.60	30.94	74.00	29.78					.0001
General Health	49.92	18.68	71.15	19.72	68.85	20.29					.0001

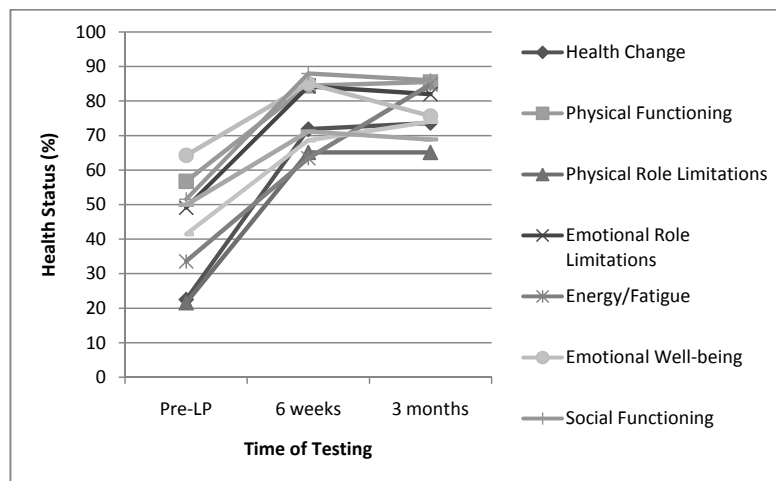


Figure 3: Improvements in health status on the sub-scales of the RAND SF-36.

We are pleased that this preliminary data supports the anecdotal evidence we receive on a daily basis – ‘with the energy/fatigue dimension, participants showed consecutive increases in their energy levels, exhibited through a significant increase between pre-test and 6 weeks ( $p < .0001$ ) and again from 6 weeks to 3 months ( $p < .05$ ).’ The indications are that the LP is making a significant positive impact, resulting in increased health status at 6 weeks, persisting at 3 months, and demonstrating improvements in all areas that were covered by the RAND SF36 questionnaire.

In two of the nine measured areas (the emotion-related dimensions) there was a significant improvement on the baseline data, followed by a slight decrease, but with the scores at three months still being significantly improved from the original baseline.

This interim data is useful information for the Lightning Process, supporting our findings to date and highlighting areas to learn from. In light of this we are considering what measures of additional support we can offer to clients, as required, to maintain and build on the changes that are made following attendance of a Lightning Process seminar.

Full anonymised data is available on request.