

# **Research Study Results**

## **Drum Circle Program**

for

## **Eating Disorder Patients**

By

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**2011**

## **RESEARCH STUDY RESULTS**

### **Drum Circle Program for Eating Disorder Patients**

#### **Conclusion**

Eating disorder in-patients who participated in one or more drum circle interventions experienced a highly statistically significant increase in positive affect (emotions and feelings), and a highly statistically significant decrease in negative affect, after the interventions.

#### **Background**

This Drum Circle Program ran weekly for a period of 10 months from June 2010 through March 2011 at St. Paul's Hospital in Vancouver, Canada, as part of the In-Patient Eating Disorders Program. Over the duration of the 40 one-hour weekly drum circle interventions, 79 different patients participated in a total of 204 individual drum circle interventions.

The hypothesis for the study of the Drum Circle Program was: "Drum Circle participation increases the positive and decreases the negative emotions and feelings in eating disorder patients".

The research study was conducted using the validated PANAS (Positive and Negative Affect Scale) to determine if drum circle interventions affect patients' emotions and feelings. The PANAS scale is from 1 to 5, 1 being "Very Slightly or Not at All" and 5 being "Extremely".

Patients rated 10 positive emotions and feelings and 10 negative emotions and feelings before and after each intervention. Their ratings before each drum circle intervention were completed immediately following a meal (a high-risk time for eating disorder patients' behaviours), just before commencement of the drum circle intervention.

The following three sections of this report discuss the key findings of the study and their statistical significance, including:

- The effect of one drum circle intervention;
- The effect of one or more drum circle interventions; and,
- The effect of three or more drum circle interventions vs. less than three.

Finally, the measurement of participants' affect and its use in the statistics for the study is described, and a description of drum circles follows.

## **One Drum Circle Intervention**

### Positive Affect

Participants who took part in one drum circle intervention (whether it was only one or the first of more than one) experienced a highly statistically significant improvement in positive affect (emotions and feelings) after the intervention.

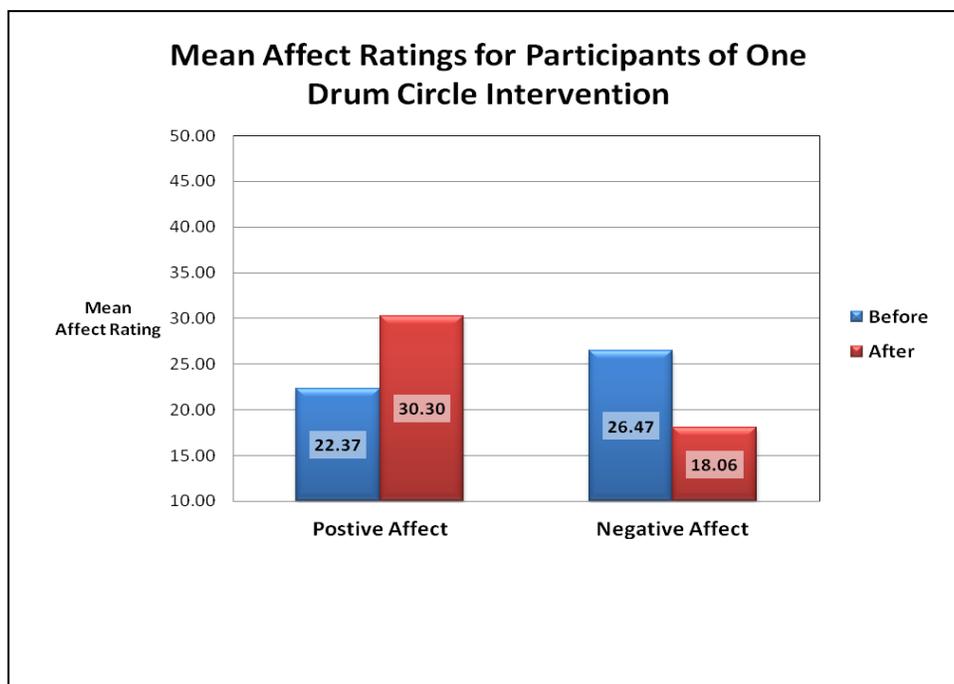
The paired t-test analysis showed a highly statistically significant difference (p-value < 0.01) between the participants' mean positive affect rating before, and after, one drum circle intervention. The mean positive affect rating before the intervention was 22.37 and the mean positive affect rating after the intervention was 30.30.

### Negative Affect

Participants who took part in one drum circle intervention (whether it was only one or the first of more than one) experienced a highly statistically significant decrease in negative affect (emotions and feelings) after the intervention.

The paired t-test analysis showed a highly statistically significant difference (p-value < 0.01) between the participants' mean negative affect rating before, and after, one drum circle intervention. The mean negative affect rating before the intervention was 26.47 and the mean negative affect rating after the intervention was 18.06.

<b>Mean Affect Ratings for Participants of One Drum Circle Intervention</b>			
<i>Affect</i>	<i>N</i>	<i>Mean</i>	<i>Standard Error</i>
Positive Affect - Before	79	22.37	0.81
Positive Affect - After	79	30.30	0.95
Negative Affect - Before	79	26.47	1.03
Negative Affect - After	79	18.06	0.89



## **One or More Drum Circle Interventions**

### Positive Affect

Participants who took part in one or more drum circle interventions experienced a highly statistically significant improvement in positive affect (emotions and feelings) after the interventions.

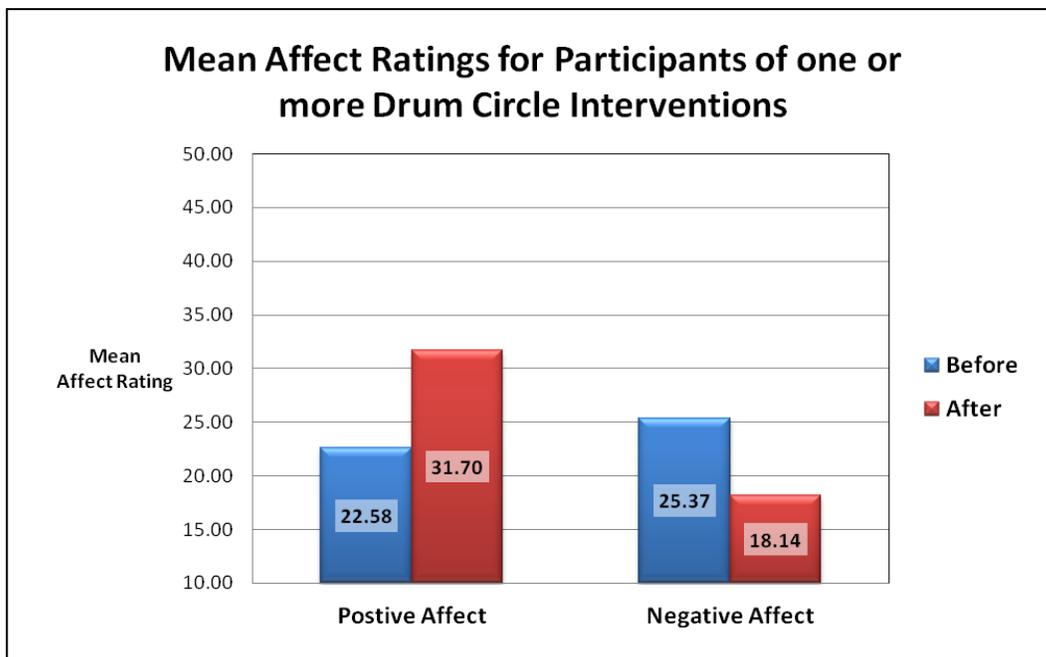
The paired t-test analysis showed a highly statistically significant difference (p-value < 0.01) between the participants' mean positive affect rating before, and after, one or more drum circle interventions. The mean positive affect rating before the interventions was 22.58 and the mean positive affect rating after the interventions was 31.70.

### Negative Affect

Participants who took part in one or more drum circle interventions experienced a highly statistically significant decrease in negative affect (emotions and feelings) after the interventions.

The paired t-test analysis showed a highly statistically significant difference (p-value < 0.01) between the participants' mean negative affect rating before, and after, one or more drum circle interventions. The mean negative affect rating before the interventions was 25.37 and the mean negative affect rating after the interventions was 18.14.

<b>Mean Affect Ratings for Participants of one or more Drum Circle Interventions</b>			
<i>Affect</i>	<i>N</i>	<i>Mean</i>	<i>Standard Error</i>
Positive Affect - Before	204	22.58	0.53
Positive Affect - After	204	31.70	0.62
Negative Affect - Before	204	25.37	0.74
Negative Affect - After	204	18.14	0.65



### **Three or more Drum Circle Interventions versus less than three Drum Circle Interventions**

The comparison of participants in three or more drum circle interventions, versus participants in less than three, is based on positive and negative affect measures after the interventions.

#### **Positive Affect**

Participants who took part in three or more drum circle interventions experienced a statistically significant greater improvement in positive affect compared to those who participated in less than three drum circle interventions.

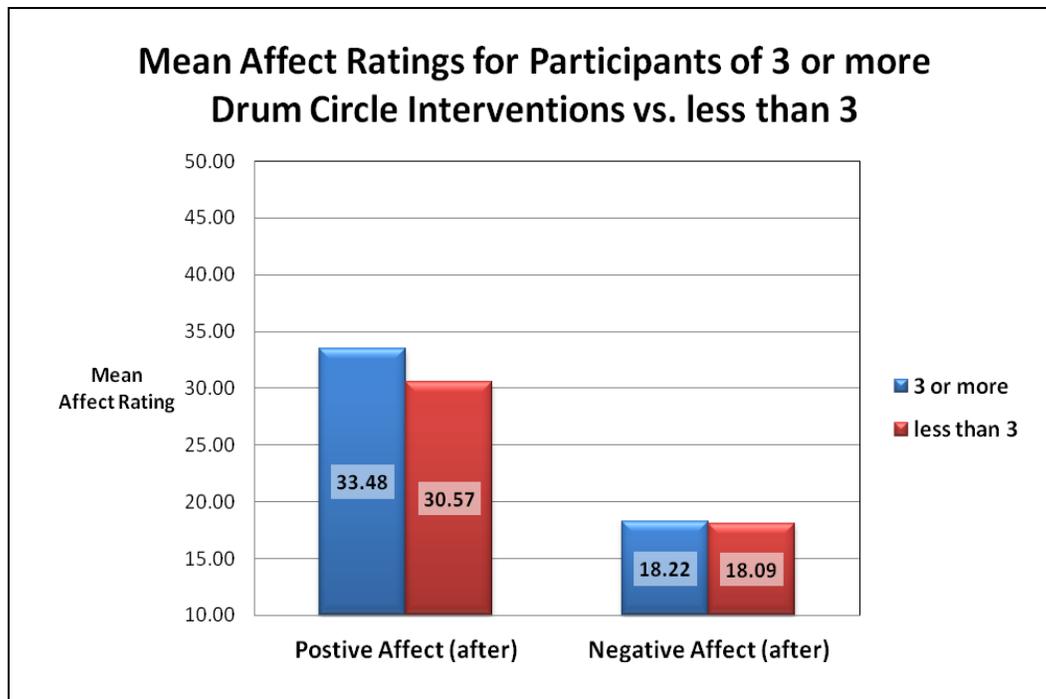
The t-test analysis showed a statistically significant difference (p-value < 0.05) between the mean positive affect rating for participants of three or more drum circle interventions versus participants of less than three interventions. The mean positive affect rating for participants of three or more drum circle interventions was 33.48 and the mean positive affect rating for participants of less than three interventions was 30.57.

### Negative Affect

Participants who took part in three or more drum circle interventions did not experience a statistically significant greater decrease in negative affect compared to those who participated in less than three drum circle interventions.

The t-test analysis failed to detect a statistically significant difference (the p-value was > 0.05) between the mean negative affect rating for participants of three or more drum circle interventions versus participants of less than three interventions. The mean negative affect rating for participants of three or more drum circle interventions was 18.22 and the mean positive affect rating for participants of less than three interventions was 18.09.

<b>Mean Affect Ratings for Participants of 3 or more Drum Circle Interventions vs. less than 3</b>			
<i>Affect</i>	<i>N</i>	<i>Mean</i>	<i>Standard Error</i>
Positive Affect – 3 or more interventions	79	33.48	1.08
Positive Affect – less than 3 interventions	125	30.57	0.74
Negative Affect – 3 or more interventions	79	18.22	1.18
Negative Affect – less than 3 interventions	125	18.09	0.75



### **Measurement of Participants' Affect and its use in Statistics for the Study**

The eating disorders drum circle intervention study used the Positive and Negative Affect Scale (PANAS) to measure participants' positive and negative affect before and after each drum circle intervention.

The PANAS measures positive and negative affect based on self-reported ratings of a set of emotions and feelings.

The ten measures of positive affect include:

- Interested
- Alert
- Attentive
- Excited
- Enthusiastic
- Inspired
- Proud
- Determined
- Strong
- Active

The ten measures of negative affect include:

- Distressed
- Upset
- Guilty
- Ashamed
- Hostile
- Irritable
- Nervous
- Jittery
- Scared
- Afraid

The scale for each measure is from 1 to 5, 1 being “Very Slightly or Not at All” and 5 being “Extremely”.

For the statistical analysis of the study, the PANAS ratings for each measure of positive and negative affect for groups of participants were summed. For example, if the average rating for each of the ten measures of positive affect for a group of participants was 2.5, the sum of these ten measures would be 25. This sum is called the “mean positive affect rating” for the study.

### **Drum Circle Description**

A drum circle is a rhythm-based event where people gather in a circle to express themselves with African drums and percussion instruments. A facilitator guides the circle, encouraging and supporting people as they reconnect with their innate sense of rhythm. A drum circle can involve various activities, some of which include: drumming, signing, movement, body-percussion, rhythm games and guided imagery.

Inclusiveness is a core principle – people of all backgrounds, mobility, ages and skill levels (even first-time beginners) can participate. Drum circles have the potential to teach us about community, intergenerational learning, creativity, team building, spirituality, mentoring, wellness and respect for other cultures. They become models for our world family, an opportunity to engage in this age-old activity where young and old play and celebrate together.

In the health care environment, drum circles promote self-expression and self-empowerment. Following drum circles, patients report feeling more energized, relaxed and joyful.

### **For More Information**

For more information about the study, or drum circle interventions for eating disorder patients and others in health care settings, or to find out more about drum circles in general, please contact Lyle Povah at [info@lylepovah.com](mailto:info@lylepovah.com) or visit [www.drummingandhealth.com](http://www.drummingandhealth.com)

### **Acknowledgements**

I am grateful to these people who have provided assistance and support for this work: Dr. Josie Geller, Brett Lloyd, Ian Bercovitz, Colleen Steel, Sarah Hooper, and many others who have made valuable contributions.