



Laughter Yoga : An Intervention to Mitigate Caregiver Stress

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DISCLAIMER

The views expressed are those of the author and do not reflect the official views or policy of the Department of Defense or its Components. Furthermore, the voluntary, fully informed consent of subjects used in this research was obtained as required by 32 CFR 219 and DODI 3216.02_AFI 40-402.

DISCLOSURE

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AGENDA

- **Background and Significance**
- **Laughter Yoga (LY) – Defined**
- **Evidence of LY Effectiveness**
- **Laughter Yoga Experience**

Background and Significance

- 16.6% in U.S. care for an adult w/ disability or illness
- Average caregiver is female (75%) approx. 46 yrs old, married and works outside the home
- Caregiver Burnout – state of emotional, mental and physical exhaustion caused by prolonged overwhelming stress of caregiving
- Signs – anxiety, depression, irritability, feeling tired/run down, difficulty sleeping, health problems, feelings of resentment, neglecting other responsibilities, drinking/smoking/eating more

Laughter Yoga –

- Form of yogic breath work
- Ha Ho sounds with exhalation
- Laughter exercises with alternating deep, slow breaths
- Accomplished in group setting
- Willing attitude and child-like playfulness



Physiologic Effect of LY

- Slow deep breathing & diaphragmatic activity stimulates the parasympathetic nervous system
- Controlled breathing has been shown to affect the autonomic nervous system and heart rate variability
- Slow deep breathing work enhances parasympathetic nervous system activity, increases vagal tone and heart rate variability
- LY causes changes in breathing pattern due to laughter and interspersed deep slow breath work



Evidence of LY Effectiveness

- Decreases stress, negative affect, anxiety and depression

(Nagendra, et.al., 2007; Weinberg, et.al., 2013; Shahidi, et.al., 2010; Nalini, et.al., 2014; Farifteh, et.al., 2014;)

- Improves mood

- Increases positive affect, self-efficacy, self-regulation, optimism, positive emotions, social identification and life satisfaction

(Beckman, Regier & Young, 2007; Shahidi, et.al., 2010; Dolgoff-Kaspar, et.al., 2012)

Laughter Yoga Study

- Sample: 43 volunteer military graduate students
 - 41 retained: Ex. Group (n = 20); WLC (N = 21)
- Mann Whitney U Results

Results of Self-Report Measure Change Score Comparison of Experimental and Wait-Listed Control (WLC) Group

Variable	<i>N</i>	<i>Md</i>	Mann Whitney <i>U</i>	Test Statistic (<i>Z</i>)	<i>p</i> (<.05)	Effect Size (<i>r</i>)
Positive Affect			147.5	-1.633	< .005*	.26
Experimental Group	20	25.5				
WLC Group	21	2				
SF 36 Role Emotional			147.5	-1.633	.046*	.26
Experimental Group	20	8.33				
WLC Group	21	-8.34				
SF 36 Mental Health			320.5	2.91	.033*	.45
Experimental Group	20	5				
WLC Group	21	0				
SF36 Physical			100	-2.695	< .005*	.42
Component Summary						
Experimental Group	20	-.27				
WLC Group	21	2.14				

Note. Results of Mann Whitney *U* analyses. *N* = number of subjects in each group; *Z* = *Z* score; *Indicates significant finding, $p \leq .05$; *r* = measure of effect size, using Cohen (1988) criteria of .1 = small effect, .3 = medium effect, and .5 = large effect.

Results of Analysis for Self Report Measures

Wilcoxon Signed Rank Test Results

Results of Self-Report Measure Change Score Analysis

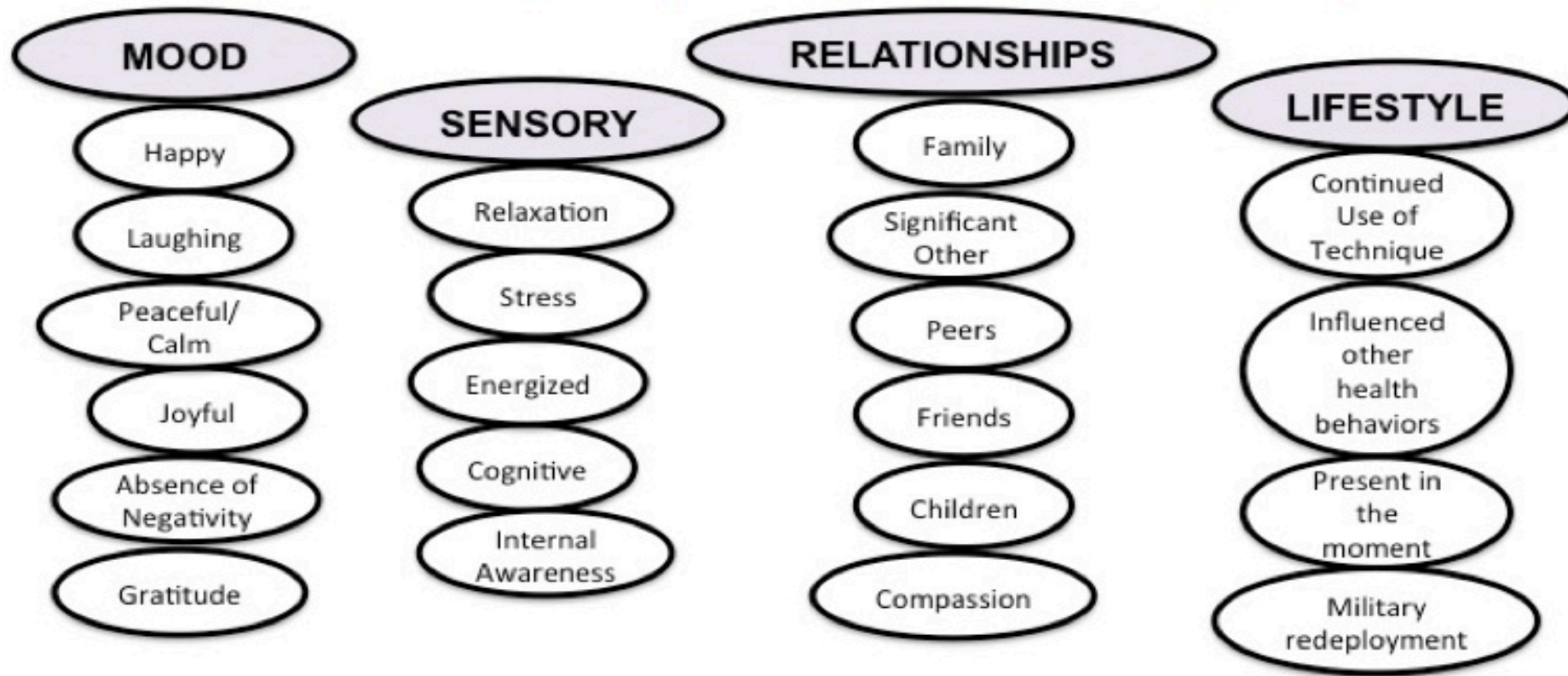
Variable	<i>N</i>	Test Statistic (<i>z</i>)	\underline{r} ($<.05$)	Observed Median	Effect Size (<i>r</i>)	% Score Change Decrease / Increase
Perceived Stress Scale	41	.091	$\underline{.928}$	0	.01	45% / 46%
Positive Affect Score	41	4.369	$\underline{<.005^*}$	11	.48	29% / 66%
Negative Affect Score	41	-1.789	$\underline{.074}$	-1	.01	76% / 17%
PHQ 8 Score	41	-1.154	$\underline{.248}$	0	.18	46% / 34%
SF 36 Role Physical Score	41	1.994	$\underline{.046^*}$	0	.22	17% / 32%
SF 36 General Health Score	41	2.137	$\underline{.033^*}$	5	.24	16% / 60%
SF36 Mental Composite Score	41	5.484	$\underline{<.005^*}$	12.9	.61	2% / 98%
Connor Davidson Resilience Scale	41	2.158	$\underline{.031^*}$	2	.24	27% / 66%

Note. Results of Wilcoxon Signed Rank analyses. *N* = number of subjects in each group; *Z* = *Z* score;

*Indicates significant finding, $p \leq .05$; *r* = measure of effect size, using Cohen (1988) criteria of .1 = small effect, .3 = medium effect, and .5 = large effect.

Content Analysis of Participant Responses

Themes and Subthemes from Participant Responses Regarding the Impact of Laughter Yoga



Note. Main themes depicted in upper most touchstone shape with shaded background, subthemes of each main theme listed below each. Themes and subthemes derived from participant responses regarding how they were affected by participation in laughter yoga.

Laughter Yoga Experience

- Warm Up
- Breathe
- Laughter Exercises
- Breathe
- Relax!

Namaste



Questions?

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