

UC Irvine

UC Irvine Previously Published Works

Title

Long-Term Improvements in Psychological Health Following a Yoga-Based Program for Professionals

Permalink

<https://escholarship.org/uc/item/69s4m5zx>

Journal

Journal of Alternative and Complementary Medicine, 26(2)

ISSN

1075-5535

Authors

Dyer, Natalie L

Borden, Sara

Dusek, Jeffery A

et al.

Publication Date

2020-02-01

DOI

10.1089/acm.2019.0340

Copyright Information

This work is made available under the terms of a Creative Commons Attribution License, available at <https://creativecommons.org/licenses/by/4.0/>

Peer reviewed

RESEARCH LETTERS

Long-Term Improvements in Psychological Health Following a Yoga-Based Program for Professionals

Natalie L. Dyer, PhD,¹ Sara Borden, MBA,¹ Jeffery A. Dusek, PhD,^{1,*} and Sat Bir S. Khalsa, PhD²

Introduction

FRONTLINE PROFESSIONALS, SUCH as law enforcement personnel, public school teachers, and health care providers, experience high levels of workplace stress, burnout, and compassion fatigue.¹ These occupations are associated with chronic stress, mood, and sleep disturbance that put individuals at risk for health problems,² poor job satisfaction, and employee turnover.³ Yoga can improve Psychological and occupational well-being in professional populations that experience high levels of stress.⁴ The purpose of this study was to explore a longer-term follow-up of the experimental group of a waitlist-controlled trial of a yoga-based program (Resilience, Integration, Self-Awareness, Engagement [RISE]) for frontline professionals that resulted in improvements in stress, resilience, affect, mindfulness, empowerment, and self-compassion up to 2 months postprogram.⁴ The authors hypothesized that improvements in these measures would be sustained at 4 and 6 months postprogram.

Methods

Frontline professionals from education, corrections, and social services sectors were invited by Kripalu to attend RISE in 2017 and 2018. RISE was delivered as a 5-day residential program at Kripalu. RISE was administered by trained highly experienced yoga teachers and included 5 h of daily sessions of yoga, meditation, mindfulness, and breathing techniques.

Measures of Psychological and occupational health, including perceived stress, resilience, positive and negative affect, mindfulness, empowerment, self-compassion, satisfaction with life, burnout, and work engagement, were taken at baseline, post, and at 2-, 4-, and 6-month follow-ups. Overall degree of practice of the RISE skills and techniques was

measured at each follow-up time point with a visual analog scale (VAS) from 0 (not at all) to 100 (very much so). The procedure is described in more detail in the previous publication.⁴ The Partners HealthCare Institutional Review Board at Brigham and Women's Hospital approved all aspects of this research.

Paired samples *t* tests were used to compare scores between each time point and baseline. Statistical analyses were conducted using SPSS 24.0 (IBM Corp, Armonk, NY).

TABLE 1. PARTICIPANT DEMOGRAPHICS (*n* = 41)

Characteristic	Value
Age (mean years and range)	41.0 (22–63)
Sex (%)	
Female	80.5
Male	17.1
Gender fluid	2.4
Ethnicity (%)	
Non-Hispanic	84.2
Hispanic	15.8
Race (%)	
White	78.0
Black	9.8
Multiracial	9.8
Asian	2.4
Education (%)	
Completed high school	4.9
Some college or associates degree	4.9
Completed college degree	41.5
Attended or completed graduate school	48.8
Sector type (%)	
Education	26.8
Corrections	29.3
Social services	43.9

¹Department of Research, Kripalu Center for Yoga & Health, Stockbridge, Massachusetts.

²Brigham and Women's Hospital, Harvard Medical School, Boston, Massachusetts.

*Current affiliation: Connor Integrative Health Network, University Hospitals, Cleveland, Ohio.

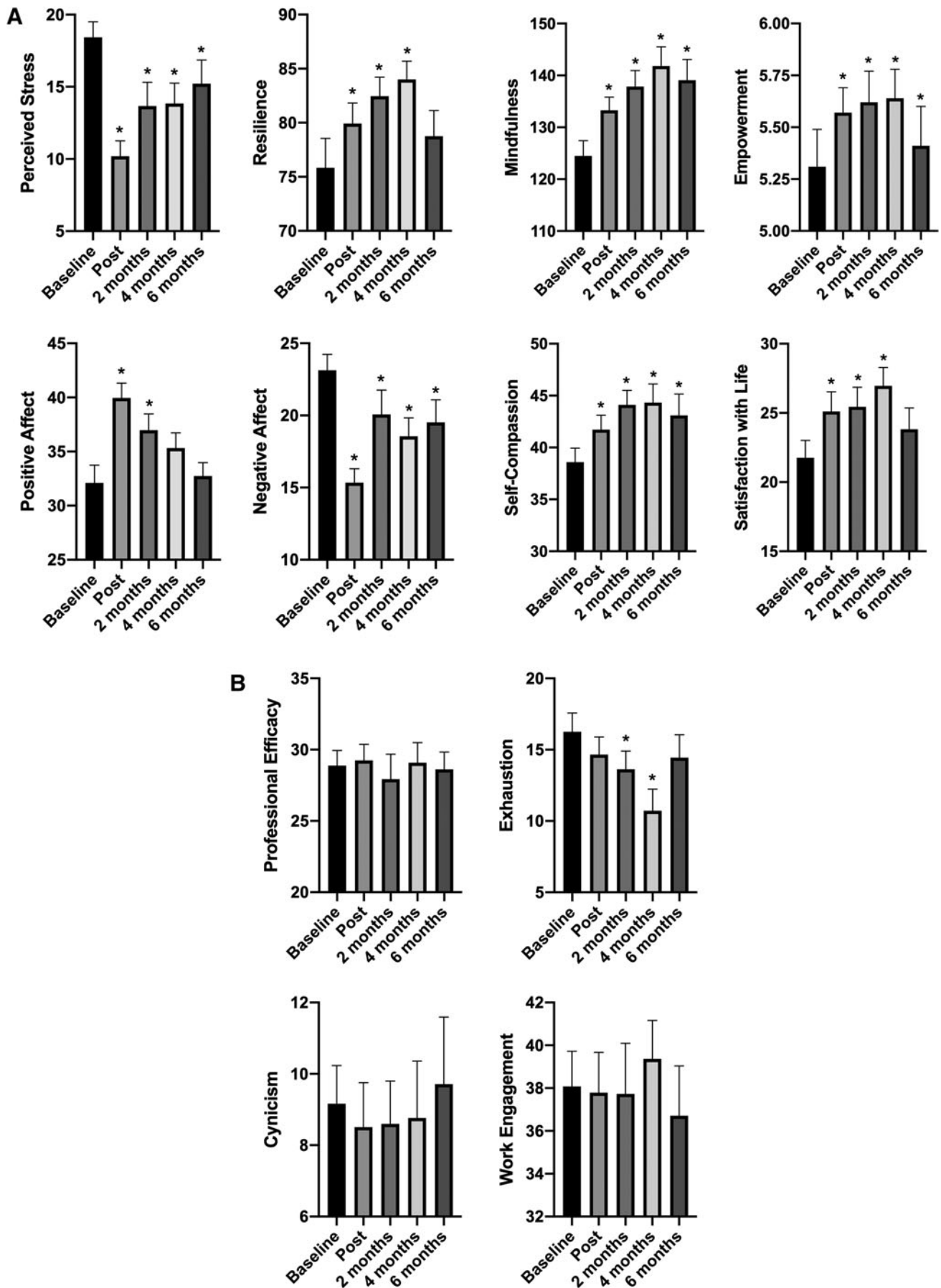


FIG. 1. Means and standard errors of Psychological (A) and occupational (B) well-being across time points (baseline, post, 2-, 4-, and 6-month follow-up). * $p < .05$ compared to baseline.

TABLE 2. STATISTICS FOR CHANGES IN MEASURES OF PSYCHOLOGICAL AND OCCUPATIONAL WELL-BEING FROM BASELINE TO POST, 2, 4, AND 6 MONTHS FOLLOWING THE PROGRAM

Measure	Baseline, post			Baseline, 2 months			Baseline, 4 months			Baseline, 6 months		
	df	t	p	df	t	p	df	t	p	df	t	p
PSS	36	-7.72	0.001	29	-4.06	0.001	24	-2.67	.013	22	-2.77	0.011
RS	38	2.25	0.030	30	4.30	0.001	24	4.04	.001	23	0.59	0.559
PA (PANAS)	36	6.47	0.001	28	3.47	0.002	24	1.89	.071	22	0.59	0.558
NA (PANAS)	36	-7.66	0.001	28	-2.38	0.024	24	-2.89	.008	22	-2.89	0.016
FFMQ	39	3.99	0.001	31	5.23	0.001	24	5.02	.001	23	4.31	0.001
PES	40	2.44	0.019	32	3.74	0.001	27	2.36	.026	26	2.10	0.045
SCS	36	3.10	0.004	29	4.85	0.001	24	3.28	.003	22	2.37	0.027
SWLS	35	4.01	0.001	28	3.05	0.005	24	3.54	.002	21	1.83	0.082
PE (MBI)	36	0.55	0.583	29	-0.08	0.940	24	-0.13	.895	20	-0.05	0.963
EX (MBI)	34	-2.00	0.053	29	-4.06	0.001	24	-3.57	.002	20	-1.31	0.205
CYN (MBI)	36	-0.91	0.371	29	-1.48	0.150	24	-0.30	.765	20	-0.04	0.765
UWES	36	-0.22	0.828	29	0.57	0.573	24	0.32	.752	20	0.12	0.908

CYN, cynicism dimension of MBI; EX, exhaustion dimension of MBI; FFMQ, five facet mindfulness questionnaire; MBI, Maslach Burnout Inventory; NA, negative affect; PA, positive affect; PE, professional efficacy of MBI; PES, psychological empowerment scale; PSS, perceived stress scale; RS, resilience scale; SCS, self-compassion scale; SWLS, satisfaction with life scale; UWES, Utrecht work engagement scale.

Results

Sixty-one participants enrolled and completed baseline measures, $n=41$ completed postmeasures, $n=33$ participants completed the 2-month follow-up, $n=28$ participants completed the 4-month follow-up, and $n=27$ participants completed the 6-month follow-up. Participants' demographics are displayed in Table 1.

Figure 1 displays the scores for psychological (A) and occupational (B) health and well-being across all time points. Table 2 displays the statistics for changes in measures across time points.

At the 4-month follow-up, participants showed sustained improvements in perceived stress, resilience, negative affect, mindfulness, empowerment, self-compassion, satisfaction with life, and exhaustion compared with baseline. Improvements in positive affect were not sustained. At the 6-month follow-up, participants showed sustained improvements in perceived stress, negative affect, mindfulness, empowerment, and self-compassion compared with baseline. Improvements in resilience, satisfaction with life, and exhaustion were not sustained.

Reports of overall practice of RISE skills and techniques revealed a decline in practice across follow-up time points on the VAS 0–100 scale: 2-month follow-up, $M=62.69$, standard deviation (SD)=14.78; 4-month follow-up, $M=56.62$, SD=15.07; and 6-month follow-up, $M=50.20$, SD=21.16.

Discussion

This study was a longer-term follow-up with the active intervention group of a previously published waitlist-controlled trial of the yoga-based RISE program for frontline professionals.⁴ The results of this study suggest that attending the RISE program may improve multiple measures of psychological health in frontline professionals up to 6 months postprogram.

Limitations of this study include small sample size, no control group for the long-term assessment points, use of only self-report measures, and limited data on home practice. Continuation of practices learned in the program may be related to sustained improvements in psychological and occupational health. This possibility suggests a need to include follow-up contact with participants to remind them to continue to engage in the yoga-based practices. Future research will be conducted to confirm or refute this hypothesis.

Acknowledgments

The authors gratefully thank Jannelle Robinson, Mindy Miraglia, and Edi Pasalis for their contributions to this project.

Author Disclosure Statement

N.L.D. is a paid postdoctoral consultant for Kripalu Center for Yoga & Health. N.L.D. recruited participants, collected and analyzed data, and wrote the article. J.A.D. was an employee of Kripalu Center for Yoga & Health during part of the conducting of this study. S.B. contributed to the conceptualization of the study, overseeing the delivery of the intervention, recruitment, and assisted with the article. J.A.D. supervised the overall project and provided statistical support and editing of the article. S.B.S.K. assisted in research design, supervision of study execution, IRB administration, data interpretation and article preparation, and was funded by a research contract from the Kripalu Center for Yoga & Health to Brigham and Women's Hospital.

Funding Information

This research was funded by the Kripalu Center for Yoga & Health. The yoga program (RISE) being evaluated was developed, funded, owned, and administered by Kripalu Center for Yoga & Health.

References

1. Ray SL, Wong C, White D, et al. Compassion satisfaction, compassion fatigue, work life conditions, and burnout among frontline mental health care professionals. *Traumatology* 2013; 19:255–267.
2. Eddy P, Heckenberg R, Wertheim EH, et al. A systematic review and meta-analysis of the effort-reward imbalance model of workplace stress with indicators of immune function. *J Psychosom Res* 2016;91:1–8.
3. Bridger RS, Day AJ, Morton K. Occupational stress and employee turnover. *Ergonomics* 2013;56:1629–1639.
4. Trent NL, Borden S, Miraglia M, et al. Improvements in psychological and occupational well-being in a pragmatic controlled trial of a yoga-based program for professionals. *J Altern Complement Med* 2019;25:593–605.

Address correspondence to:

Natalie L. Dyer, PhD

Kripalu Center for Yoga and Health

57 Interlaken Rd

Stockbridge, MA 01262

E-mail: natalieleighdyer@gmail.com