

Appendix for

**45 Good Things: A Prospective Pilot Study of the Three Good Things Well-being
Intervention in the US for Healthcare Worker Emotional Exhaustion, Depression, Work-
life Balance, and Happiness**

- 1) Sample of de-identified 3GT submissions
- 2) Participant evaluation statistics
- 3) Representative comments from participants about their experience of Three Good Things
- 4) Paired t-test values for 6 and 12 month follow-ups
- 5) Percent concerning rates across each time point
- 6) Multilevel models including gender

1) Sample of de-identified 3GT Submissions:

- My husband thanked me for helping make supper.
- Talked with several people from my hospital that I had never had the chance to get to know before.
- I had extra time to enjoy my morning coffee.
- I completed a project that I had been needing to get done for a few weeks.
- I made it to the gym and had a great workout.
- The surgeon I work with is always a pleasure to be around.
- I saw another friend from high school today and was really nice to be together and laugh.
- I am grateful for a positive response I received from a colleague after I allowed myself to be vulnerable by reaching out.
- It was NOT snowing today.
- Busy night at work, but had really great teamwork.

2) Participant evaluation statistics

- 95.8% agreed with “I would recommend the 3 Good Things exercise to a friend.”
- 85.3% agreed with “I have encouraged others to try 3 Good Things.”
- 92.7% agreed with “I would like to participate in 3 Good Things again next year.”
- 92.8% agreed with “I would recommend the 3 Good Things exercise to a supervisor.”
- 94.3% agreed with “My overall impression of the 3 Good Things exercise is favorable.”

- 84% agreed with “I liked being able to read through the "Shared" logs from the previous day.”
- 56.4% agreed with “It was important to me to have the choice to "Not Share" my good things each night.”
- 92.5% agreed with “I would like to know about other resilience activities like this one.”
- 77.2% agreed with “It got easier to think of my three good things after the first few days.”

3) Representative Comments from participants about their experience of Three Good Things:

- I enjoyed the participation in this exercise. At first it was challenging but after the first couple of days it became easier to think of positive things going on in my life. It was a good experience for me to realize how positive my life really is vs. always thinking of the things that are negative.
- I wish it were ongoing. I don't feel like doing it myself but I was instantly struck by the power of being part of group of people who were asked to see their lives through this positive filter.
- I thought it was very well organized and liked how it made me focus on the positive.
- I like the idea of it - but I don't like having to do one more task each and every day!
- Am still trying to note 3 good things a day, & believe it helped "reroute" my thinking.
- I appreciated stepping back to recognize all the things I take for granted that are good in my life

- When thinking about my 3 good things all day long, I was amazed how they changed by the time I was ready to put them down.
- Taking time to reflect on what good things happened that day. Honestly, some days it was harder to make those three entries. Could only think of what went wrong--but always managed to think of at least 3 good things.
- Registering what was good, by typing it and sending it in, makes a really big difference in my mood (that day and afterward). Just thinking about it aloud, or even talking about it, is not as impactful.
- On some days, especially early on, I felt that the good things I shared were small, relatively insignificant, things I did not value as greatly, but shared simply because they were the only things in my day I could think of that I and others would identify as "good." In this last week. I felt that many more positive things occurred in both my personal and professional life and this exercise became not only easier, but more meaningful. I liked the automated daily email reminders to enter my three good thing as this established a welcome consistency in my daily routine even on the nights when I'm thoroughly exhausted.
- I will miss my daily reminder email!
- It was actually something I did just for myself, taking time for myself. I think that led to taking time for myself in other ways (i.e. breaks at work, exercising in the a.m. before work - I have NEVER done that before and it feels good!) It really changed my outlook at the end of the day to the good things instead of dwelling on the negative. eventually I was looking for good things and making good things happen.

- I was skeptical, but have reallllllly reallllly enjoyed the change in my outlook and I cannot thank you all enough :)
- It motivated me to follow suit after reading others' activities.
- It is a positive exercise that reinforces positive thoughts which lead to more positive behaviors. I feel better about life.
- It helped me live in the moment and take each day as it comes. I feel that my sleep is improved. I even went back to sleep after waking up at 3.45 am. This never happens if I have to work that day. Overall, I feel that I can make even more time for myself to maintain the work life balance. Thank you for allowing me participate in this exercise.
- I was prompted to build a routine of thinking about my day differently.
- I really like hearing from so many people and learning how we are more alike than different.
- I looked forward to it popping up on my email each evening.
- I enjoyed it very much! By day 3 I was already looking back on my day with a more positive attitude
- I enjoyed finding good things - especially on hard days. I looked forward to completing them. I sometimes told people that I was including them in my 3 good things (after explaining the exercise). It helped me appreciate the small and big things, think about how they made me feel and usually it was my favorite people in my life that I included.
- I did the same exercise with my family and the email reminded me to ask my kids what 3 great things happened to them right before bed.

- I did learn to look forward to it, although the first couple of days were difficult. I liked how it would make me stop during the day, and mentally bookmark events for my three good things.
- I did enjoy it. I liked reading through everyone's responses -- the good kind of rubs off! It was interesting to see people turn something negative into something positive, i.e. see the silver lining or put a positive spin on things.
- I became tuned into the present and what I was feeling.
- Pushing myself to take a minute (or two) for me to think, look back, look ahead.
It seriously helped me get through my mother's death the week before and the family dynamics/calisthenics that ensued the in the surrounding time.

4) Paired t-test values for 6 and 12 month follow-ups

Paired samples t-tests for baseline to 6 and 12 months across the total sample and the “percent concerning” sub-sample

Variable		Baseline values in 6-month analyses	6-Month Follow-up	Baseline to 6-Mo: T [95% CI] Cohen's d ^a	Baseline values in 12-month analyses	12-Month Follow-up	Baseline to 12-Mo: T [95% CI] Cohen's d
		Mean SD (N)	Mean SD (N)		Mean SD (N)	Mean SD (N)	
Emotional Exhaustion ^c	Total sample	56.74 27.41 (111)	47.01 29.65 (111)	4.42*** [5.37, 14.10] .34	51.47 27.76 (108)	45.85 28.89 (108)	2.25* [.76, 10.47] .20
	Concerning group at baseline ^b	74.57 13.85 (70)	60.93 25.08 (70)	4.59*** [7.71, 19.57] .67	71.19 14.50 (63)	58.66 25.85 (63)	3.64** [5.65, 19.41] .60
Depression Symptoms ^d	Total sample	9.34 6.02 (94)	6.44 5.00 (94)	4.63*** [1.66, 4.15] .52	8.43 5.40 (96)	6.28 4.85 (96)	3.92*** [1.06, 3.23] .42
	Concerning group at baseline	15.21 4.58 (39)	8.33 4.18 (39)	8.21*** [5.18, 8.57] 1.57	14.20 4.21 (35)	8.51 5.52 (35)	5.50*** [3.58, 7.79] 1.15
Subjective Happiness ^e	Total sample	5.4 1.17 (119)	5.33 1.08 (119)	-4.01*** [.15, .43] -.26	5.25 1.07 (121)	5.57 1.12 (121)	-4.24*** [.17, .47] -.29
	Concerning group at baseline	3.81 .68 (48)	4.47 .91 (48)	-6.32*** [.45, .87] -.81	3.95 .74 (38)	4.55 -1.21 (38)	-3.77** [.28, .93] -.60
Work-life Balance ^f	Total sample	2.22 .61 (110)	2.07 .65 (110)	2.79*** [.04, .26] .24	2.16 .65 (108)	2.07 .58 (108)	1.51 [-.03, .22] .16
	Concerning group at baseline	2.63 .46 (64)	2.32 .64 (64)	4.17*** [.16, .46] .55	2.69 .49 (53)	2.30 .56 (53)	4.04*** [.19, .58] .73

^a Cohen's d effect sizes for correlated samples were computed with the means, SD, and N, of participants with data available for the given assessment point. ^b The following cut-offs were used for the percent concerning sub-groups: Emotional Exhaustion scores ≥ 50 ; Depression scores ≥ 10 ; Problems with Work-life Balance scores > 2 ;

Subjective Happiness scores < 5. ^c Emotional Exhaustion was assessed with a 5-item derivative of the emotion exhaustion subscale of the Maslach Burnout Inventory. ^d Depression symptoms were measured with the Center for Epidemiological Studies Depression Scale. ^e Subjective Happiness was assessed with Lyubomirsky and Lepper's subjective happiness scale. ^f Work-life balance was assessed with the Work-life Climate scale. Higher score scores reflect higher levels of each construct, with the exception of work-life balance, in which case lower numbers reflect healthier work-life balance.

5) Percent concerning rates across each time point

Percent of the sample meeting or exceeding concerning thresholds at each time point

Variable	Baseline^a	1-Month Follow-up	6-Month Follow-up	12-Month Follow-up
Emotional Exhaustion	50.2%	39.7%	43.5%	33.8%
Depression Symptoms	37.2%	19.1%	28.8%	12.5%
Subjective Happiness	35.5%	18.7%	28.8%	16.4%
Problems with Work-life Balance	57.5%	30.9%	44.3%	36.9%

^a Percent concerning at baseline provided for those who participated in day 1 of 3GT. ^b The following cut-offs were used for the percent concerning sub-groups: Emotional Exhaustion scores ≥ 50 ; Depression scores ≥ 10 ; Problems with Work-life Balance scores > 2 ; Subjective Happiness scores < 5 .

6) Multilevel models including gender

Unconditional Linear Growth Model

To assess change in burnout (our primary outcome) across the assessment points we fit an unconditional growth model, with random intercepts and slopes. Assessment time point was the only predictor. Assessments (4) were nested within individual.

The fixed effects indicate that there is a significant intercept ($\hat{\gamma}_{00} = 55.78, p < .001$) and a significant linear slope ($\hat{\gamma}_{10} = -2.78, p < .001$). The model-implied mean burnout at baseline was 55.78, and it varied significantly across participants. The model implied mean burnout decreased significantly over time, on average by 2.78 units with each assessment.

The estimated random effects revealed significant variability among the individual intercepts ($\hat{\tau}_{00} = 626.91, p < .001$) and individual slopes ($\hat{\tau}_{11} = 28.37, p < .001$). There was not significant covariance between intercepts and slopes ($\hat{\tau}_{10} = -30.77, p = .142$), indicating that baseline levels of burnout does not predict one's rate of change overtime during 3GTs.

Gender as a Time-Invariant Covariate

To explore whether gender plays a role in in the reduction of burnout across the assessment points, we added gender (1=man, 0 = woman) as a time-invariant covariate to the model.

In the results of the fixed effects, we again find that the intercept is significant ($\hat{\gamma}_{00} = 54.14, p < .001$), and the model-implied mean level of burnout at baseline is 54.14 for women. The main effect of time point is also significant ($\hat{\gamma}_{10} = -2.72, p < .001$), reflecting that the model implied linear slope of the trajectory is significantly decreasing over time

for women. The main effect of gender is not significant ($\hat{\gamma}_{01} = -2.78, p < .001$), and this reflects that the model-implied intercept is not significantly different by gender (i.e., genders did not differ at baseline). The interaction between gender and time point is not significant, although it is at the level of a trend ($\hat{\gamma}_{11} = .15, p = .08$), indicating that the model-implied linear slopes do not differ in magnitude between men and women.

In the random effects results, we find that significant variability remains in the random intercept ($\hat{\tau}_{00} = 624.93, p < .001$) and the random slope ($\hat{\tau}_{11} = 27.46, p < .001$), after accounting for gender. There was not significant covariance between intercepts and slopes, after accounting for gender ($\hat{\tau}_{10} = -28.79, p = .17$).

This model indicates that burnout significantly decreases across the assessment points while controlling for gender.