Randomized Controlled Trial of the Tibetan Buddhist Feeding Your Demons Contemplative Process in Meditation Practitioners

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Abstract

Objectives: To investigate outcomes and predictors of a Tibetan Buddhist meditation process called Feeding Your Demons® (FYD) vs. a waitlist (WL) control group of meditation practitioners with moderate depression, anxiety, and stress symptoms. **Methods**: 61 meditators (70% female; mean age = 44.05, SD = 11.20; 43.5% White, 39% Asian, 9.3% Hispanic, 8.3% other) were randomly assigned to 1-month of FYD practice or WL groups. Participants completed self-report assessments at baseline and post-FYD/WL. **Results:** Intention-to-treat analysis found that, compared to WL, FYD yielded significantly greater decreases in stress symptoms and increases in self-compassion. Moderator analyses showed baseline lesser history of psychiatric problems (but not number of years of meditation practice) predicted greater reduction in depression, anxiety, and stress symptoms. Regression analyses found that the number of FYD sessions completed predicted post-FYD increases in self-compassion and satisfaction with life, as well as decreases in stress, depression, and intolerance for uncertainty. **Conclusions:** FYD practice may enhance multiple facets of psychological health in adults in a dose dependent manner. An RCT with an active comparison training is necessary to determine the specificity of FYD related effects and to identify mechanisms of change.

Keywords meditation, predictors, randomized controlled trial, stress, self-compassion, emotion

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Chronic negative states of mind are a source of psychological distress. Within the past few decades, there has been a surge of interest in the investigation of different meditation techniques as methods to modulate adaptive and maladaptive psychological states in both clinical and non-clinical samples. While the majority of meditation research has focused on mindfulness (Keng, Smoski, & Robins 2011) and more recently, compassion (Goldin and Jazaieri 2017), there is growing awareness and interest in empirically investigating other types of contemplative techniques. Importantly, more advanced contemplative practices were designed centuries ago by master Buddhist meditation practitioners that build on the capacities

developed by introductory practices and represent more refined methods for modulating emotions, exploring the cognitive components of well-being, and probing the nature of mind.

One type of contemplative process specifically developed to address maladaptive states of mind and dysfunctional emotional reactions is called chöd (Tibetan gchod: "to cut off"). It refers to a multi-dimensional approach to identify and extirpate the root of deleterious mental states including confusion, ignorance, fear, anger, anxiety, and harmful attachment. This contemplative process was developed in the 11th century ACE by a revered female Tibetan Buddhist meditation master named Machig Labdron

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and has continued as a lineage of practice to the present day. In essence, chöd is focused on modifying maladaptive self-views and emotional afflictions, and is considered a potent method for developing compassion, fearlessness, and cutting through psychological resistance. While the original chöd process is elaborate and challenging, modern Tibetan Buddhist meditation instructors have developed a simpler, easy to implement version called Feeding Your Demons® (FYD) that can be understood and practiced by individuals not initiated in esoteric Buddhist contemplative practices (Allione 2008).

Although there are no previous empirical studies of chöd, the foundations of this practice are based on mindful awareness of present-moment sensations, emotions, and cognitions, as well as on cultivating different facets of compassion. More specifically, the FYD process involves identification of internal or interpersonal conflict, emotion awareness, somatosensory processing, visualization, perspective taking, emotion regulation, inquiry, non-attachment, and integration of self that leads to the final step of stilling the mind in deep reflective concentration. Thus, the FYD process is multi-dimensional in that it cultivates multiple adaptive psychological skills and may yield varied positive outcomes (Allione 2008). However, to date, there has been no controlled trial with psychometrically validated assessments of the FYD practice. Despite anecdotal suggestions, there have been no empirical investigations of the effects of FYD practice on mental health and well-being. Furthermore, studies have not yet examined whether there is a relationship between the amount of FYD practice and improvement in mental health, and whether pre-training baseline features of participants moderate the effects of FYD on mental health outcome measures.

Our goals in this randomized controlled trial were to examine the effects of 1-month of FYD practice versus a no meditation training waitlist control group (WL) on changes in maladaptive and adaptive psychological functioning in adults with prior meditation experience. We focused on symptoms of stress, depression, and anxiety as our primary outcome measures, as these are the most common forms of distress reported by adults. We also examined a variety of secondary variables that might elucidate the effect of FYD on several cognitive processes (emotion regulation, intolerance for uncertainty, self-compassion, interoceptive awareness) that might be modified during 1-month of FYD practice. We further examined whether pre-training baseline participant characteristics (i.e., self-reported history of psychiatric problems on the MINI screener, age, gender, amount of prior meditation experience) and amount of FYD meditation sessions during the 1-month of practice

predicted improvements in psychological functioning. We expected that, compared to WL, FYD would be associated with greater reduction in symptoms of stress, depression, and anxiety (Hypothesis 1: differential clinical symptom outcome). We examined whether participant self-reported history of psychiatric disturbance on a screener and amount of prior meditation experience at baseline moderated the effect of group on psychological functioning post-FYD/WL (Hypothesis 2: baseline moderators of training outcome). We tested whether the number of FYD meditation sessions completed during the 1-month of FYD training was associated with improvement in psychological functioning (Hypothesis 3: predictor of training outcome).

Method

Participants

We recruited community dwelling meditation practitioners via listservs, social media, and Buddhist meditation centers. All interested participants had to attend an information meeting led by Chandra Easton, the primary FYD instructor, and other members of the research team (EE, PG, AB) during which we described the design and purpose of the study, introduced the FYD contemplative process, and answered all questions regarding research participation. Potential participants then read an informed consent document approved by the University of California Davis Medical Center Institutional Review Board, asked questions, and then provided informed consent prior to any data collection and meditation training. Potential participants had to have at least 3 months of consistent meditation experience (defined as 3 or more days per week for at least 15 minutes per session). We used no other exclusion criteria.

From February to May 2018, 107 potential participants completed the informed consent and an online screen to collect demographics and prior meditation experience. Each participant was given a unique identification number and link to access the online baseline assessment of self-reported psychological functioning delivered using Qualtrics software on a secure computer server at UC Davis. All responses were linked to the identification number and not to any name. Only the research team had access to participant responses. The first 61 participants who completed the baseline assessment were randomly assigned with equal probability via a computer algorithm to either FYD (n = 30) or WL (n = 31) groups (see Consolidated Standards of Reporting Trials, Figure 1). A power analysis conducted with G*Power 3.1 indicated that for a repeated-measures ANOVA

Figure 1. Consolidated standards of reporting trials diagram for a randomized controlled trial of FYD vs. WL groups
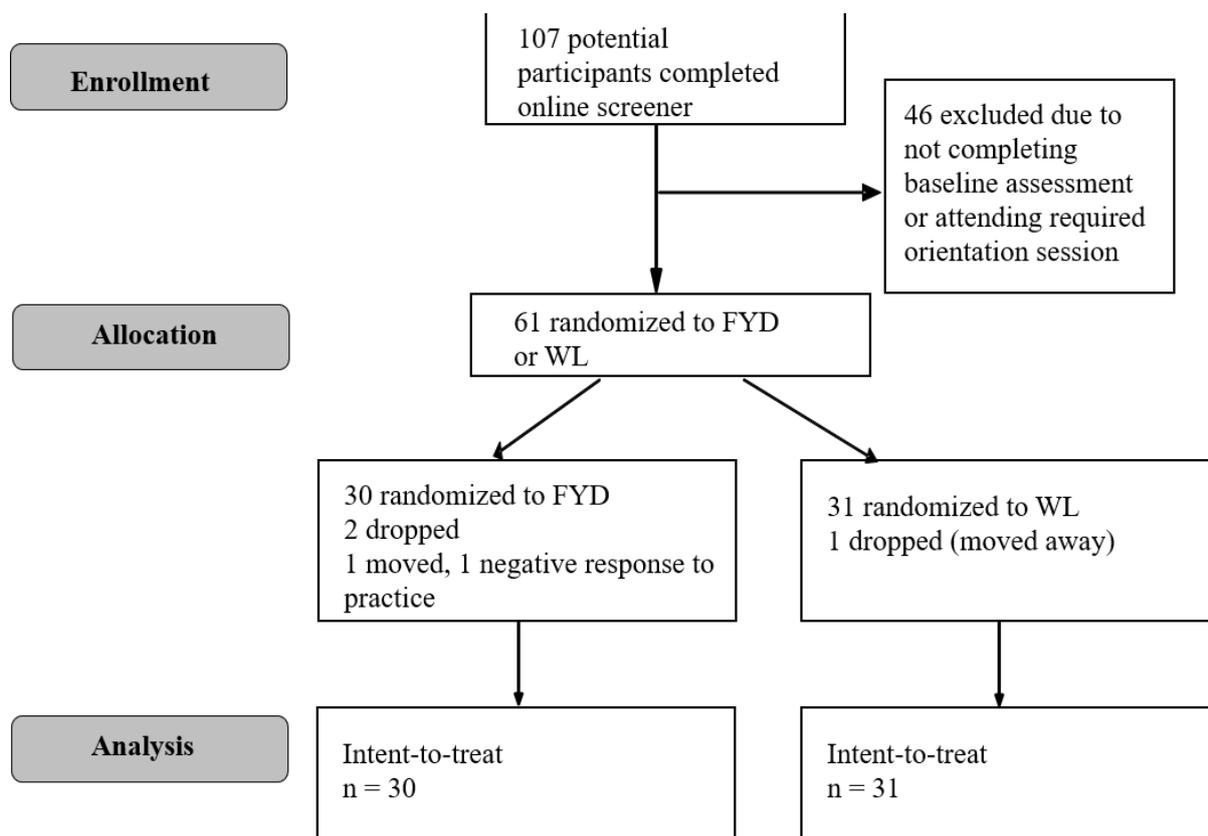
with 2 group by 2 time points (i.e., within - between interaction), assuming effect size f = 0.3, alpha = .01, correlation among repeated measures = 0.3, to achieve power > 0.8, a minimum total sample size of 44 participants and a critical F value of > 3.94 is required.

Procedure

All participants provided informed consent prior to completing the online screener. After completing all baseline assessments, participants were randomly assigned to either FYD or WL groups. Participants completed the same assessments again after one month of FYD training or no training waitlist delayed group. Participants received the FYD training at no cost. Participants who completed the post-WL assessments were subsequently offered FYD training.

Feeding Your Demons Contemplative Process. FYD is a meditation technique taught in Tibetan Buddhism as a method for transforming psychological conflict and adverse emotions via visualization, perspective taking, approaching, and releasing as preparation for stabilizing the mind to sit in a calm and concentrated state of meditative equipoise. FYD integrates multiple contemplative skills, including mindful present-moment awareness, compassion, insight into interdependence, and dissolution of self-grasping. The person-specific idiographic focus on an emotionally evocative conflict serves as the basis for starting the practice. The personally salient nature of the FYD practice makes it vivid, vibrant, and meaningful for the meditator. While FYD follows the same structure, the content and focus can change from session to session.

The FYD practice was created by Lama Tsultrim Allione (2008) as a simpler and more accessible version of the more complex Tibetan Buddhist chöd practice. FYD consists of five structured sequential steps implemented with eyes closed, seated, and shifting between two chairs facing each other. In step one, the practitioner chooses a challenging issue to work on, for example, anger, physical pain, illness, addiction, fear, relationship conflict, and so forth, observes the associated bodily sensations, and notices the texture, temperature, and color of the sensations. In step two, the practitioner allows the sensations to be personified as a *demon* figure visualized directly in the seat in front of the seated practitioner, notices the demon's color, size, demeanor, eyes, emotional state, gender (if it has one) and other characteristics. Next, the practitioner asks the demon three questions: "What do you want? What do you really need beneath the want? How will you *feel* when you get what you really

need?" In step three, the practitioner stands with eyes closed, sits in the empty second chair in front, inhabits the demon, looks at the practitioner's normal self in the first chair, and answers the three questions from the perspective of the demon. In step four, the practitioner returns to the original chair, views the demon, and feeds it by mentally creating an infinite amount of nectar that has the quality of the answer to the third question (How will you *feel* when you get what you really need?) or by dissolving the body and transforming it into nectar and offering it to the demon. When the demon is satiated, it transforms into the practitioner's ally, a profound helper. The practitioner takes note of the color, size, demeanor, eyes, gender (if it has one), and so on, and asks "How will you help me? How will you protect me?" Once again, the practitioner stands, switches chair, becomes the ally, and answers the questions speaking as the ally. When done answering, the practitioner returns to the original chair as herself. In step five, the ally dissolves into the practitioner and then the practitioner enters a relaxed and spacious state of mind described as "resting in awareness of the present moment" without projection, elaboration, or amplification.

There was an initial group introduction in which everyone was introduced to the FYD practice and historical context by Chandra Easton who led everyone together through one FYD session. Then after being randomly assigned to either FYD or waitlist, each participant was assigned a meditation facilitator. The participant and facilitator set up 3 guided sessions based on their mutual agreement. There was not a set time for the 3 guided sessions. During the 1 month, participants were supposed to complete 15 FYD sessions in total which included the 3 facilitator-guided FYD sessions, thus, 3 sessions with a coach and another 12 sessions on their own using audiotaped FYD guided instructions provided by the research team. The FYD practice always includes the same 5 step sequence. Thus, the same procedure for the FYD practice was implemented for each iteration.

FYD Fidelity and Treatment Completer Status. Chandra Easton was the primary meditation trainer/instructor in this study. She has completed an average of 3 meditation retreats per year since 1992 and has been a meditation teacher since 2001. She has taught FYD for 8 years, after being trained and certified to teach FYD by Lama Tsultrim Allione, who created the FYD contemplative process based on the Tibetan Buddhist chöd process (Allione 2008, Taye 2016). Chandra Easton conducted an initial 2-hour FYD orientation for all study participants and FYD facilitators, and then supervised each of the FYD facilitators during the study. To support the FYD practice, each participant was provided audio, video, and text-based instructions, the Feeding Your

Demons® book by Lama Tsultrim Allione, and three one-on-one FYD sessions with an assigned FYD facilitator. The FYD facilitators were pre-selected based on having a long-term meditation practice, several years of FYD practice, guiding others in FYD practice, and prior instructor training in FYD with Lama Tsultrim Allione and Chandra Easton. Chandra Easton provided oversight, consultation, and guidance to each of the FYD facilitators during the study. Many of the FYD facilitators were psychotherapists, counselors, or psychologists with extensive experience in mental health and psychological interventions. The FYD facilitators were educated (*Mean* = 18.4 years of education, standard deviation (SD) = 1.7), long-term meditators (*Mean* = 26.38 years, SD = 8.53, range = 15 to 40 years) with a lot of experience guiding FYD practice (*Mean* = 9.88 years, SD = 4.02, range = 6 to 16 years).

Participants were asked to complete 15 sessions of FYD meditation within 30 days. We gave each participant a personal diary in which the participant was prompted to record state emotion, arousal, and craving intensity before and after each FYD session. Based on diary entries, we found that 45 (75%) of participants completed 10 or more FYD sessions, with 38 (63%) completing all 15 sessions within 30-days.

Measures

All participants completed the Montreal International Neuropsychiatric Interview (MINI) version 7.0 for DSM-5 (Sheehan et al. 1998) *clinical diagnostic screener* which consisted of yes/no responses for 13 questions to probe different psychological problems. The full MINI was not administered due to time restrictions. The MINI screener only assessed for the possible presence of symptoms related to accidents, thinking of self-harm under and not under the influence of alcohol and drugs, mania, panic, post-traumatic trigger and re-experiencing, alcohol misuse/abuse, substance use disorder, hallucinations, delusions, and generalized anxiety.

Primary Outcome Measure. Severity of symptoms of depression, anxiety and stress was assessed with the *Depression Anxiety Stress Scale*, DASS (Lovibond and Lovibond 1983) which uses 7 items for each of the three psychological constructs (21 total items). Participants must indicate "how much the statement applied to you *over the past week*" using a 4-point scale from 0 (never) to 3 (almost always). The DASS has good reliability and construct validity (Rytwinski et al. 2009) and its internal consistency was excellent in this study (Cronbach's α = .90).

Secondary Outcome Measures. The *Emotion Regulation Questionnaire*, ERQ (Goldin, Manber-Ball, Werner, Heimberg, & Gross 2009; Gross and John 2003) utilizes a 7-point Likert-type scale ranging from

1 (*strongly disagree*) to 7 (*strongly agree*) and includes 6 items assessing cognitive reappraisal frequency (CR), and 4 items assessing suppression. Internal consistency for CR ($\alpha = .76$) and suppression ($\alpha = .74$) were adequate at baseline.

The *Intolerance of Uncertainty Scale – 12*, IUS-12 is a short version of the original 27-item Intolerance of Uncertainty Scale (Freeston, Rhéaume, Letarte, Dugas, & Ladouceur 1994) that measures responses to uncertainty, ambiguous situations, and the future. The 12 items are rated on a 5-point Likert scale ranging from 1 (not at all characteristic of me) to 5 (entirely characteristic of me). Internal consistency for IUS-12 at baseline in this study was good ($\alpha = .88$).

The *Satisfaction with Life Scale*, SWLS (Diener, Emmons, Larsen, & Griffin 1985) is a 5-item instrument designed to measure global cognitive judgments of satisfaction with one's life. Participants indicate how much they agree or disagree with each of the 5 items using a 7-point scale that ranges from 7 strongly agree to 1 strongly disagree. Internal consistency for SWLS ($\alpha = .88$) was good at baseline.

The *Self-Compassion Scale*, SCS (Neff 2003) is a 26-item measure rated on a 5-point Likert-type scale ranging from 1 (almost never) to 5 (almost always). Sample items include, ''I try to see my failings as part of the human condition'' and ''When something painful happens I try to take a balanced view of the situation''. The SCS has demonstrated strong convergent and discriminant validity, good test–retest reliability and internal consistency, and no correlation with social desirability (Neff 2003). Internal consistency for SCS ($\alpha = .72$) was adequate at baseline.

Three components of the *Multidimensional Assessment of Interoceptive Awareness* MAIA-2; (Mehling et al. 2012) were used to measure Noticing Body Sensations, Emotional Awareness of the connection between body sensations and emotional states, and Self-Regulation of distress by attention to body sensations. Noticing consisted of 4 items and had adequate internal consistency ($\alpha = .69$). Emotion awareness consisted of 5 items and had good internal consistency ($\alpha = .80$). Self-regulation had 4 items and had good internal consistency at baseline ($\alpha = .79$).

Data Analyses

We used SPSS v28 to detect missing data at post-FYD/WL (time 2) and post-FYD for initial WL participants (time 3). Little's missing completely at random (MCAR) test was used to determine if there was any systematic bias in missing data at time 2 and 3, and to determine which multiple imputation method to implement.

We conducted a multiple imputation using a linear model to generate a pooled estimate for missing self-report questionnaire responses at time 2 (post-FYD/WL) based on using all time 1 (baseline) questionnaires as predictors only and time 2 (post-FYD/WL) as predictors and imputed.

For Hypothesis 1, we used an intention-to-treat approach to examine whether, compared to WL, FYD resulted in significantly greater improvement in psychological functioning. We implemented a repeated-measures analysis of variance (rmANOVA) to investigate group (FYD, WL) by time (baseline, post-FYD/WL) interaction effects, with follow-up planned tests to examine within-group changes. To control for potential false positive detection (Type I error) related to multiple statistical tests, we used an alpha level of $p = .01$ as a threshold for reporting a result as significant.

For Hypotheses 2, we conducted a moderation analysis using the PROCESS procedure for SPSS version 4.0 with model 1, high (84th percentile), moderate (50th percentile) and low (16th percentile) levels of the standardized moderator, and a 95% confidence interval (CI) generated by bias-corrected bootstrap method with 5,000 iterations (Hayes 2017). We used mean-centered group (FYD, WL) as the independent variable (X), and the standardized residuals of depression, anxiety, and stress scores from the DASS at time 2 (post-FYD/WL), separately, as the outcome variable (Y) and examined mean-centered baseline variables (total number of self-endorsed MINI screener items, years of meditation practice) as moderator variables (M).

For Hypotheses 3, we used linear regression to test whether the number of FYD sessions completed predicted outcome measures residualized on baseline measures. We report 95% confidence intervals and partial eta-squared (η^2_p) effect size.

Results

Primary Analyses

As shown in Table 1, FYD and WL groups reported similar levels of gender, age, education, and number of years of prior meditation experience (FYD range: 3 months to 18 years, and WL range: 3 months to 27 years). For all psychological measures, there were no significant differences between groups (all ps > .05). Two participants dropped from FYD and one from WL groups. Our analysis of missing data revealed that relative to 61 participants at baseline (time 1), at post-FYD/WL (time 2) there were missing responses for 3 (4.9%) depression, anxiety, stress, and satisfaction with life, respectively, and 4 (6.6%) emotion regulation, self-compassion, intolerance for uncertainty, and interoceptive awareness, respectively. Across all participants, 4.62% of all responses across all self-

Table 1. Demographics and Clinical Characteristics of Participants

Characteristic	FYD (n = 30)	WL (n = 31)
Females, No. (%)	24 (80.0)	19 (61.3)
Age, mean (SD), years	42.4 (9.5)	45.6 (12.6)
Education, mean (SD), years	17.2 (2.1)	17.0 (2.0)
Dropped participation, (%)	2.0 (6.6)	1.0 (3.2)
MINI Screener No. endorsed (SD)	4.83 (3.25)	4.70 (2.45)
Meditation Experience (SD), years	7.56 (5.74)	8.55 (7.48)

Note. All comparisons (between-group *t*-test or χ^2 tests) are non-significant, *p* >.05. FYD= Feeding Your Demons group, WL=waitlist group, M=mean, SD=standard deviation, No = number, % = percentage.

report measures were missing at post-FYD/WL. Little's MCAR test confirmed that the data were missing at random, Chi-square = 0.71, df = 7, *p* = .99. Because there was no evidence of systematic bias and monotonicity in the missing data, we utilized the Markov chain Monte Carlo (MCMC) method to impute values for missing responses at post-FYD/WL (time 2).

There was no difference in the number of FYD meditation sessions completed by the immediate FYD, *M* = 12.70, *SD* = 4.28, versus post-WL FYD groups, *M* = 11.86, *SD* = 4.15, *t*(56) = 0.84, *p* = .40. We found that, compared to men (n = 17), women (n = 43) completed more FYD meditation sessions, 12.9 vs. 10.4 sessions, *t*(58) = 2.09, *p* = .041, 95%CI[-4.84, -0.10]. There were no male vs female significant differences on any of the variables at baseline, all *ps* > .08, and in changes of any of the variables from pre- to post-FYD/WL, all *ps* > .16. Age was not associated with any variables at baseline, all *ps* > .10. However, years of meditation was associated at baseline with greater emotion awareness, *r*(60)=.285, *p* = .027, and greater self-regulation, *r*(60)=.375, *p* = .003.

MINI Clinical Diagnostic Screen
As shown in Table 2, more than half of participants self-endorsed on the MINI screener a history of generalized anxiety, accidents, including taking too much medication, exposure to traumatic events, panic attacks, and thinking about harming, hurting, or injuring yourself while not under the influence of drugs and/or alcohol. As shown in Table 1, there was no difference the number of MINI screener items endorsed in the FYD (range 0 to 12) versus WL (range 0 to 10) groups, *t*(58) = 0.18, *p* = .86, 95% CI [-1.36, 1.62].

FYD versus Waitlist Control (Hypothesis 1)
Primary Outcomes. Using an intention-to-treat approach, a 2 group (FYD, WL) by 2 time (pre, post) rmANOVA revealed a significant interaction of group by time on *stress* symptoms, *F*(2,59) = 11.75, *p* = .001, η^2_p = .17, Cohen's *f* = .45, with no main effects of group, *F*(1,59) = 0.03, *p* = .87, η^2_p = .00, or time,

F(1,59) = 1.64, *p* = .21, η^2_p = .03 (see Table 3). Planned follow-up paired *t*-tests showed a significant reduction in *stress* for FYD, *t*(29) = 2.99, *p* = .006, Hedges' *g* = .54, but not for WL, *t*(30) = 1.73, *p* = .10, *g* = -.31.

For *depression* symptoms, there was an interaction of group by time, *F*(2,59) = 4.83, *p* = .032, η^2_p = .076, Cohen's *f* = .29, with no main effects of group, *F*(1,59) = 0.68, *p* = .41, η^2_p = .01, or time, *F*(1,59) = 3.52, *p* = .066, η^2_p = .056.

For *anxiety* symptoms, there was an interaction of group by time, *F*(2,59) = 4.48, *p* = .038, η^2_p = .071, Cohen's *f* = .28, with no main effects of group, *F*(1,59) = 0.27, *p* = .61, η^2_p = .004, or time, *F*(1,59) = 0.04, *p* = .85, η^2_p = .00.

Secondary Outcomes. A 2 group (FYD, WL) by 2 time (pre, post) rmANOVA revealed a significant interaction of *self-compassion*, *F*(2,59) = 9.00, *p* = .004, η^2_p = .13, Cohen's *f* = .41, with no main effect of group, *F*(1,59) = 2.17, *p* = .15, η^2_p = .04, and a main effect of time, *F*(1,59) = 28.14, *p* < .001, η^2_p = .32. Planned follow-up paired *t*-tests showed a significant increase in *self-compassion* for FYD, *t*(29) = 4.62, *p* = .011, 95% CI [.76, .29], and for WL, *t*(30) = 2.50, *p* = .018, 95% CI [.26, .03]. There were no interactions of group by time for any other measures (emotion regulation, satisfaction with life, uncertainty, noticing sensations, emotion awareness, self-regulation), all *ps* > .05.

Moderator Analysis of FYD Outcome (Hypothesis 2)
Using the PROCESSv4.0 procedure in SPSS, we conducted moderator analyses to examine the relationship of two potential moderators of the effect of group (FYD vs WL) on three indices of adverse mental states, namely, post-FYD/WL standardized residuals of depression, anxiety, and stress symptoms.

Self-Endorsed MINI Screener History of Psychiatric Problems. As shown in Table 4, the moderation analysis detected a significant interaction of *history of psychiatric problems* and group on post-FYD/WL anxiety (ΔR^2 = .08, F(1,56) = 5.91, *p* = .018), but not depression (ΔR^2 = .04, F(1,56) = 2.60, *p* = .11),

Table 2. MINI Screener Questions and Percent Endorsement

MINI screener questions	Endorsed by % of total sample; n=72
Generalized anxiety: Have you experienced excessive anxiety, or worried about several routine things, that it interfered with your daily functioning?	62.5
Have any accident? This includes taking too much of your medication accidentally.	61.1
Panic1: Have you, on more than one occasion, had spells or attacks when you suddenly felt anxious, very frightened, uncomfortable or uneasy, even in situations where most people would not feel that way?	59.7
Panic 2: Did the anxiety spells or attacks surge to a peak within ten minutes of starting?	30.6
PTSD triggering event: Have you ever experienced or witnessed or had to deal with an extremely traumatic event that included actual threatened death or serious injury or sexual violence to you or someone else?	59.7
PTSD re-experiencing: Starting after the traumatic event, did you repeatedly re-experience the event in an unwanted mentally distressing way, (such as in recurrent dreams related to the event, intense recollections or memories, or flashbacks or as if the event was recurring), or did you have intense physical or psychological reactions when you were reminded about the event or exposed to a similar situation?	38.9
Think about harming, hurting, or injuring yourself? (While NOT under the influence of drugs and/or alcohol).	51.4
Think about harming, hurting, or injuring yourself? (While under the influence of drugs and/or alcohol).	31.9
Mania: Have you ever had a period of time when you were feeling 'up" or 'high' or 'hyper' and so active or full of energy that you got yourself in trouble, or that other people thought you were not your usual self? (Do NOT consider times when/if you were intoxicated on drugs or alcohol).	26.4
Have you ever been clinically diagnosed with alcohol misuse or abuse?	23.6
Have you ever experienced delusions? (false and fixed belief systems that are not responsive to any evidence. Do NOT consider times if/when you were intoxicated on drugs or alcohol).	20.8
Have you ever been clinically diagnosed with substance use disorder? (Drugs including stimulants, cocaine, opiates, hallucinogens, dissociative drugs, inhalants, cannabis, tranquilizers, steroids, non-prescriptive sleep or diet pills).	18.1
Have you ever experienced hallucinations? (false sensory experiences including visual, audible and/or tactile. Do NOT consider times if/when you were intoxicated on drugs or alcohol).	6.9

and stress (ΔR^2 = .05, F(1,56) = 341, p = .07) symptoms. The Johnson-Neyman analysis of simple slopes found that lower (<23rd percentile) and higher (>98% percentile) levels of history of psychiatric problems at baseline were significantly associated with lower and higher, respectively, levels of anxiety symptoms immediately post-FYD vs. WL (Figure 2).

Years of Meditation Experience. As shown in Table 4, the moderator analysis did *not* reveal a significant interaction of *years of meditation*

experience with group on post-FYD/WL depression (ΔR^2 = .03, F(1,56) = 1.91, p = .17), anxiety (ΔR^2 = .00, F(1,56) = 0.15, p = .70), and stress (ΔR^2 = .00, F(1,56) = 0.10, p = .75) symptoms. However, the simple slope analysis found that higher levels of years of meditation experience at baseline were associated with lower levels of anxiety and stress symptoms post-FYD and WL (Figure 3).

Table 3. Outcome Variables

Variable	FYD Mean (*SD*) (*n* = 30)	WL Mean (*SD*) (*n* = 31)
DASS - Depression		
Baseline	7.33 (5.18)	6.85 (5.26)
Post	4.62 (5.14)	7.06 (5.60)
Within-group t-test	2.49*	0.28
Within-group effect size, *g*	.45	.05
DASS - Anxiety		
Baseline	5.17 (4.17)	3.67 (2.83)
Post	4.04 (4.92)	4.62 (3.60)
Within-group t-test	1.45	1.58
Within-group effect size, *g*	.26	.28
DASS - Stress		
Baseline	10.20 (4.08)	8.48 (3.68)
Post	7.61 (5.59)	9.66 (3.85)
Within-group t-test	*2.99**	1.73
Within-group effect size, *g*	.54	.095
ERQ - Cognitive Reappraisal		
Baseline	4.35 (1.06)	4.77 (0.86)
Post	4.67 (1.06)	4.62 (0.85)
Within-group F-test	2.23	1.09
Within-group effect size, η_p^2	.07	.035
ERQ – Suppression of emotion expression		
Baseline	3.18 (1.40)	3.64 (1.14)
Post	2.62 (1.47)	3.55 (1.09)
Within-group F-test	6.50*	0.52
Within-group effect size, η_p^2	.18	0.02
Self-Compassion		
Baseline	2.67 (0.82)	2.57 (0.70)
Post	3.19 (0.94)	2.72 (0.72)
Within-group F-test	21.36***	6.26
Within-group effect size, η_p^2	.42	.17
Satisfaction with Life		
Baseline	17.53 (6.56)	17.67 (5.99)
Post	19.03 (6.94)	18.87 (6.65)
Within-group F-test	2.64	4.06
Within-group effect size, η_p^2	.08	.12
Intolerance for Uncertainty		
Baseline	33.50 (10.36)	34.17 (7.54)
Post	30.73 (11.76)	33.90 (9.17)
Within-group F-test	2.97	0.06
Within-group effect size, η_p^2	.09	.00
MAIA-2 Notice Sensations		
Baseline	4.53 (0.94)	3.93 (0.90)
Post	4.45 (1.16)	3.90 (0.93)
Within-group F-test	0.14	0.06
Within-group effect size, η_p^2	.01	.00
MAIA-2 Emotion Awareness		
Baseline	4.90 (0.86)	4.46 (0.97)
Post	4.91 (0.82)	4.56 (0.85)
Within-group F-test	0.01	0.48
Within-group effect size, η_p^2	.00	.02
MAIA-2 Self-Regulation		
Baseline	3.92 (0.96)	4.00 (0.81)
Post	4.30 (1.08)	4.06 (0.86)
Within-group F-test	4.50	0.39
Within-group effect size, η_p^2	.13	.01

Note. FYD = Feeding Your Demons meditation group, WL = waitlist control group, η_p^2 = partial eta^2 effect size measure, Pre vs. post within-group change: * $p < .01$, ** $p < .005$, *** $p < .001$

Table 4. Moderation Effect of History of Psychiatric Problems on the MINI Screener and Years of Meditation Experience on the Effect of FYD vs Waitlist Control Groups on Post-FYD/WL Residualized Depression, Anxiety, and Stress Symptoms

|	β, SEM	t, p	95%CI
Depression			
Constant	5.72, .66	8.67, <.000	[4.40, 7.04]
Group	-1.15, .66	1.74, .09	[-2.47, .17]
MINI sum	.44, .24	1.80, .08	[-.05, .92]
Group x MINI sum	.39, .24	1.61, .11	[-.09, .88]
Overall R^2, F, p	.16, 3.64, .018		
Anxiety			
Constant	4.27, .51	8.45, <.000	[3.26, 5.29]
Group	-.30, .51	0.58, .56	[-1.31, .72]
Psychiatric Problems	.41, .19	2.22, .03	[.04, .79]
Group x MINI sum	.45, .19	2.43, .018	[.08, .82]
Overall R^2, F, p	.22, 5.07, .0035		
Stress			
Constant	8.59, .56	15.25, <.000	[7.46, 9.71]
Group	-1.04, .56	1.84, .07	[-2.16, .09]
Psychiatric Problems	.57, .21	2.75, .008	[.15, .98]
Group x MINI sum	.38, .21	1.85, .07	[-.03, .80]
Overall R^2, F, p	.24, 6.01, .0013		
Depression			
Constant	5.65, .69	8.23, <.000	[4.27, 7.02]
Group	-1.12, .69	1.63, .11	[-2.49, .26]
Meditation Years	.01, .11	0.09, .92	[-.21, .23]
Group x Meditation Years	-.19, .11	-1.77, .08	[-.41, .02]
Overall R^2, F, p	.10, 2.05, .12		
Anxiety			
Constant	4.26, .57	7.53, <.000	[3.12, 5.39]
Group	-.29, .57	0.51, .61	[-1.42, .84]
Meditation Years	-.04, .09	0.46, .65	[-.21, .14]
Group x Meditation Years	-.09, .09	0.99, .33	[-.27, .09]
Overall R^2, F, p	.02, 0.42, .74		
Stress			
Constant	8.59, .63	13.62, <.000	[7.33, 9.85]
Group	-1.04, .63	1.65, .10	[-2.31, .22]
Meditation Years	-.09, .10	0.87, .39	[-.29, .11]
Group x Meditation Years	-.05, .10	0.49, .66	[-.24, .15]
Overall R^2, F, p	.06, 1.11, .35		

FYD Practice Predicts Outcomes (Hypothesis 3)

Using linear regression, we found that the number of FYD sessions completed predicted residualized increases in *self-compassion*, R^2 = .13, $t(49)$ = 2.75, p = .008, beta =.09, SE = .03, 95% CI [.03, .16], standardized beta = .37, and *satisfaction with life*, R^2 = .12, $t(49)$ = 2.60, p = .012, beta =.09, SE = .035, 95% CI [.02, .16], standardized beta = .35, as well as decreases in *stress symptoms*, R^2 = .11, $t(49)$ = 2.51, p = .016, beta = -.085, SE = .03, 95% CI [-.15, -.017], standardized beta = -.34, *depression symptoms*, R^2 = .08, $t(49)$ = 2.07, p = .044, beta = -.07, SE = .035, 95% CI [-.14, -.002], standardized beta = -.28, and *intolerance for uncertainty*, R^2 = .08, $t(49)$ = 2.00, p = .051, beta = -.07, SE = .028, 95% CI [-.14, -.001].
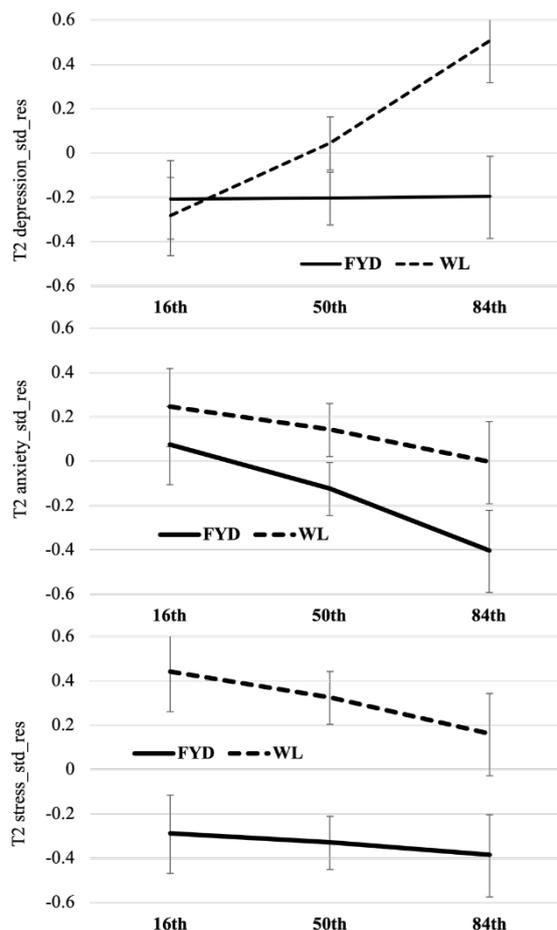
Discussion

The goal of this pilot RCT study was to examine the effect of FYD (vs. WL) on psychological functioning, and to explore predictors of FYD outcome in a sample of experienced meditators. Compared to WL, FYD yielded significantly greater decreases in stress symptoms and increases in self-compassion, with a trend for greater reduction in depression and anxiety. The moderator analysis found that greater baseline self-endorsed history of psychiatric problems, but not prior meditation experience, significantly moderated the effect of FYD vs. WL on symptoms of anxiety immediately post-FYD. Regression analysis showed that the number of FYD sessions completed during the one-month training protocol was associated with post-FYD increases in self-compassion and satisfaction with life, as well as decreases in stress, depression, and intolerance for uncertainty.

Figure 2. Simple slopes for interaction of history of psychiatric problems on the MINI screener (16th, 50th, and 84th percentile) and group on depression, anxiety, and stress outcomes

Figure 3. Simple slopes for interaction of years of meditation experience and group on depression, anxiety, and stress outcomes
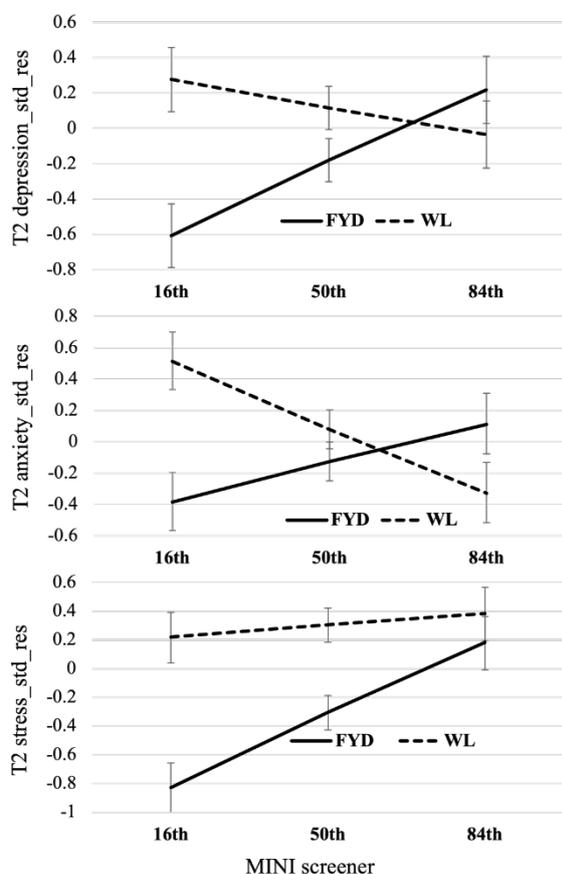
Many types of meditation have been shown to produce reductions in depression, anxiety, and stress symptoms. These include mindfulness meditation in the context of Mindfulness-Based Stress Reduction (Chiesa and Serretti 2009), vipassana meditation (Goyal, Singh, Sibinga, & et al. 2014), mindful self-compassion (Neff and Germer 2013) and compassion meditation (Cosley, McCoy, Saslow, & Epel 2010). FYD was associated with significant decreases in depression, anxiety, and stress symptoms compared to the no training group. Within the FYD group only the reductions in symptoms of depression and stress were significant, Reductions inanxiety were not statistically significant, likely due to the small sample size. This may also be due to the shorter duration of FYD practice (1-month in our study) compared to the longer duration of training in other meditation training programs (usually 2 months in duration). Also, we observed that the amount of FYD practiced during 1-month predicted reductions in depression symptoms. This further suggests that a longer duration of FYD practice might produce greater decreases in clinical symptoms. However, the relative efficacy of FYD in reducing stress symptoms and enhancing self-compassion versus other types of meditation techniques and psychological interventions remains to be investigated.

Recently, there has been a growing interest in identifying underlying psychological mechanisms that explain how different contemplative practices reduce maladaptive mental states (e.g., stress, fear, anxiety). During FYD, the explicit technique of repeatedly facing a source of distress embodied in a personally personified demon together with the reduction of overlearned automatic fear responses can be conceptualized as the process of fear exposure. This process involves persistent exposure to feared stimuli (e.g., external/internal objects, situations, interoceptive cues and memories) with progressive habituation of fear responses. From a learning perspective, fear exposure has been explained by extinction (i.e., inhibition of fear responses to a conditioned cue), counterconditioning (i.e., experience of reward following approach rather than avoidance of the feared stimulus), reappraisal (i.e., reinterpretation of the feared stimulus as less intense or harmful), and disrupting reconsolidation (i.e., interruption of the

process by which fear memories are re-stabilized in the mind and brain) (Craske, Hermans, & Vervliet, 2018). In general, the fear exposure process has been linked with enhancement of psychological flexibility reflected by increased self-efficacy and emotion regulation, as well as decreased threat appraisal and emotional reactivity (Smith et al., 2018).

In the context of FYD, a feared stimulus that gives rise to distress is initially observed as sensory experience in the practitioner's body and then intentionally projected in the visualized form of a demonic figure. Gradually extinguishing distress, decentering from automatic patterns of emotion reactivity, directly probing the demon with questions, and then offering nourishment to the demon until it is satiated provides a context, meaning and structure for deepening approach, rather than avoidance, of the feared stimulus. Furthermore, transformation of the demon into the ally may enhance positive emotions, perspective taking, self-efficacy, and emotion regulation. The combination of these different processes may explain how FYD reduces stress. However, this proposed model of underlying psychological mechanisms needs to be tested empirically in future studies.

We observed that self-compassion increased after 1-month of FYD and WL. Although not statistically significant, we attribute the increase in self-compassion in the WL group to the agency that resulted in enrolling in the study, and in knowing that they would receive 1-month of FYD training. For the FYD trained group, increases in self-compassion may be associated with interaction with the supportive ally figure. The active projection of a personified ally who commits to helping and protecting the practitioner may be experienced as care directed toward oneself. Specifically, the practitioner observes how her actions (engaging in inquiry and offering nourishment) transform the demon into the ally, and then how the ally dissolves and integrates into oneself. This component of the FYD practice may inculcate a sense of self-worth and active self-care, which are building blocks of self-compassion, or the wish that one be free from the experience of and causes of suffering and anguish. Given that the demon is a projection of an aspect of oneself, an alternative explanation is that actively approaching and nourishing the demon may by itself be sufficient to increase self-compassion in the practitioner. However, it is possible that a combination of the relational stance toward both the demonic and supportive figures enhances self-compassion.

We found preliminary evidence of specific participant features that might be related to FYD outcome (Hypothesis 2). The moderator analysis indicated that prior history of psychiatric problems measured at baseline moderated the effect of FYD on

anxiety symptoms. This relationship was characterized by lower anxiety post-FYD in those meditators with lesser history of psychiatric problems. In contrast to our findings, a recent study of stressed older adults found that worse mental health at baseline predicted better outcomes following a 6-weeks mindfulness meditation intervention (Oken, Goodrich, Klee, Memmott, & Proulx 2018). However, the differences in meditation techniques and duration may account for this difference in the relation between baseline mental health and post-meditation training outcomes.

This suggests that the impact of FYD on adverse mental states is not equal for all participants. The simple slope findings suggest that individuals with a high loading of past and/or current psychiatric disturbances may not be appropriate candidates for FYD practice possibly because the intensity of emotion processing involved in the FYD practice may activate and/or elevate these symptoms. Another implication of these findings is that there may be a need to conduct more thorough psychiatric assessments of individuals at baseline before introducing them to the FYD process to inform meditation instructors of which practitioners may need additional support and guidance during training. In fact, estimates of improvement in psychological functioning may be dependent on more refined psychiatric screening prior to meditation training. This also raises the question of whether sub-groups of participants with high loading of psychiatric disturbance might benefit more from a sequence of psychotherapy followed by FYD training. A much larger sample size is needed to identify which specific psychiatric profiles, not just the sum of prior psychiatric problems, identifies who will and will not benefit from FYD (and other types of contemplative training).

Interestingly, the number of years of prior meditation experience did not significantly moderate the effect of FYD on depression, anxiety, and stress symptoms, although the simple slope analysis showed a consistent pattern of greater meditation experience related to lesser adverse mental states post-FYD. This suggests that the impact of psychiatric problems may be a stronger predictor than prior meditation experience. The effect of meditation experience may also be influenced by the variety of different types of meditation training, retreat experience and regularity of meditation practice. A more refined analysis of the type and duration of prior meditation experience (as well as type and duration of psychiatric problems) is necessary to further delineate how these variables influence the effectiveness of FYD practice.

Amount of FYD practice during the one-month training was associated with both increases in positive (self-compassion, satisfaction with life) and decreases in negative (stress, depression, intolerance for

uncertainty) indicators of psychological functioning and well-being (Hypothesis 3). Our findings converge with prior studies of the relationship of the amount of mindfulness meditation practiced during MBSR and outcomes. Specifically, Carmody and Baer (2008) found that the amount of at-home formal meditation exercises (body scan, yoga, sitting meditation) was related to decreases in negative symptoms and increases in mindfulness and well-being.

With respect to generalizability, it is important to note that we recruited only participants with at least some regular meditation experience and minimal evidence of depression, anxiety, and stress symptoms. For this pilot study of a more complicated form of meditation training we thought it safer to investigate individuals already trained in meditation based on the assumption that prior knowledge and experience with meditation would make it easier to understand and implement the FYD meditation process. We also decided to not investigate the effects of FYD in individuals with clinical psychiatric disorders for several reasons. First, we did not have prior knowledge that FYD would be effective for psychiatric patients as there is no research published on the effects of FYD in individuals with clinically diagnosed psychological disorders. Furthermore, we did not consider a one-month dose of FYD practice sufficient to serve as an intervention for any psychiatric condition. Importantly, not all meditation facilitators were trained psychotherapists or clinical psychologist who would have greater insight and ability to help a practitioner with psychiatric conditions integrate FYD skillfully. Thus, at present, it is not clear how generalizable the beneficial effects of FYD are for individuals with no prior meditation training and with psychiatric conditions.

Limitations and Future Research
The focus of this RCT was on the effects of FYD on psychological functioning in a sample of meditation practitioners with a wide range of prior meditation experience. Because our comparison condition was a waitlist control group, we cannot rule out the possibility that psychological improvement in the FYD group was related to meeting with meditation facilitators or to an interaction of the FYD practice and regular meetings with facilitators. To investigate the specificity of the FYD practice, future studies could compare facilitated versus non-facilitated FYD practice. Furthermore, future studies will need to compare FYD to an active comparison meditation practice such as mindfulness of breath or body scan, or to another non-meditation psychological intervention for stress, depression, and anxiety (e.g., cognitive-behavioral therapy or pharmacological therapy). Our study only used self-report measures. Future studies

could be strengthened by the inclusion of computer tasks of cognitive and attention regulation, biomarkers of stress (e.g., cortisol, telomeres) to complement self-report measures, and functional brain imaging of cognitive and attention regulation brain network changes with FYD practice. To better understand the effect of different meditation facilitators, future studies should include a measure of working alliance with the facilitator measured during and after the one-month FYD training. To further examine mechanisms of change during FYD training, future studies could measure weekly self-compassion. Our study examined the effects of 1-month of FYD practice. However, given that amount of FYD practice was associated with improvement, future studies could consider the effect of larger doses of FYD practice over several months. Finally, dismantling studies are needed to examine the differential effects of each of the 5 steps of the FYD meditation method, such as interaction with the visualized demon, with the visualized ally, and resting in awareness meditation.

Additional Information

Significance
Much has been written about the Tibetan Buddhist chöd practice, its lineage of transmission to the present from the 11th century and its introduction to the West as a contemplative process called Feeding Your Demons (FYD). However, our study is the first randomized controlled trial of the FYD practice that examined the effects of this meditation practice on clinical symptoms and well-being in experienced meditators with minimal depression, anxiety, and stress symptoms. This study also begins the process of identifying potential moderators and mediators of the effects of FYD on psychological well-being. Furthermore, even a dose of FYD practice as short as 1 month was associated with a shift toward adaptive psychological functioning.

Conflict of Interest
Disclosure of potential conflicts of interest: Lama Tsultrim Allione is the creator of the Feeding Your Demons contemplative practice. The other authors declare no conflicts of interest.

Ethical Approval
Research involving human participants: This research study was approved by the University of California Davis Human Subjects Committee. Informed consent:

We obtained both online and in-person informed consent for this study prior to any data collection.

Data Availability
Data is available by contacting Philippe Goldin.

Author CRediT Statement
PG: designed and executed the study, conducted the data analyses, and wrote the paper. AB: collaborated with the design and implementation of the study. EE: collaborated with the design, data collection, and implementation of the study. VS: collaborated with data collection. TM: collaborated with data collection and study management. CE: collaborated with study design, teaching FYD practice, supervision of all FYD coaches. TA: collaborated with study implementation. All authors approved the final version of the manuscript for submission.

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