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Treatment credibility, expectancy, and preference: prediction of treatment engagement and outcome in a randomized clinical trial of hatha yoga vs. health education as adjunct treatments for depression

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Abstract

Background: Hatha yoga may be helpful for alleviating depression symptoms. The purpose of this analysis is to determine whether treatment program preference, credibility, or expectancy predict engagement in depression interventions (yoga or a control class) or depression symptom severity over time.

Methods: This is a secondary analysis of a randomized controlled trial (RCT) of hatha yoga vs. a health education control group for treatment of depression. Depressed participants (n=122) attended up to 20 classes over a period of 10 weeks, and then completed additional assessments after 3 and 6 months. We assessed treatment preference prior to randomization, and treatment

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Author Statement

The manuscript has been read and approved by all named authors. All authors have materially participated in this research.

Contributors:

- Lisa Uebelacker is responsible for the design of the parent study, oversight of data collection, design of the analyses reported in this paper, data analysis, data interpretation, and preparation of this manuscript.
- Lauren Weinstock is responsible for the design of the analyses reported in this manuscript, data interpretation, and review of this manuscript.
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Declaration of interest

Dr. Uebelacker's spouse is employed by Abbvie Pharmaceuticals. Other authors have no conflicts of interest to disclose.

credibility and expectancy after participants attended their first class. Treatment “concordance” indicated that treatment preference matched assigned treatment.

Results: Treatment credibility, expectancy, and concordance were not associated with treatment engagement. Treatment expectancy moderated the association between treatment group and depression. Depression severity over time differed by expectancy level for the yoga group but not for the health education group. Controlling for baseline depression, participants in the yoga group with an average or high expectancy for improvement showed lower depression symptoms across the acute intervention and follow-up period than those with a low expectancy for improvement. There was a trend for a similar pattern for credibility. Concordance was not associated with treatment outcome.

Limitations: This is a secondary, post-hoc analysis and should be considered hypothesis-generating.

Conclusions: Results suggest that expectancy improves the likelihood of success only for a intervention thought to actively target depression (yoga) and not a control intervention.

Keywords

depression; credibility; expectancy; preference; yoga

Introduction

Major depression is a complex phenomenon that involves the interplay of physical, emotional, and cognitive symptoms. Beliefs about a treatment’s efficacy may interact with the treatment itself to determine the actual impact of that treatment. When a depressed patient expects that her/his depression symptoms will improve with a given treatment, be it psychotherapy or medications, this may in fact increase the chances that the patient’s depression symptoms do improve (Rutherford et al., 2010). Consistent with this, the odds of being considered a treatment responder are higher in trials that compare two active antidepressant medications than they are in the medication arms of randomized, double-blind, placebo-controlled trials (Rutherford et al., 2009). Credibility is a related but distinct construct, and refers to “how believable, convincing, and logical the treatment is” (Kazdin, 1979). Across different types of psychotherapies and psychiatric disorders, early patient perceptions of treatment credibility predict symptom change over time (Mooney et al., 2014).

Patient preference may also predict treatment response. That is, patients who receive a preferred depression treatment (i.e., “concordance”) might show better outcomes than those who receive a non-preferred treatment in a randomized trial. Empirical findings provide mixed support for this hypothesis (Winter and Barber, 2013). A meta-analysis that included 12 studies of depression treatment preference demonstrated a significant but small (Cohen’s $d = 0.17$) effect of concordance on outcome (Lindhiem et al., 2014).

Expectancy, credibility, and concordance may also exert an indirect effect on symptomatic outcome through higher treatment adherence or engagement, or decreased likelihood of study dropout. For example, in a study of internet-based CBT for social anxiety disorder,

higher treatment credibility was associated with higher rates of adherence (El Alaoui et al., 2015). Other studies have found that concordance or strength of preference is associated with higher levels of adherence (Hunot et al., 2007; Raue et al., 2009) or lower likelihood of dropout (Dunlop et al., 2017; Kwan et al., 2010), although there are studies that fail to support this hypothesis (Winter and Barber, 2013). A meta-analysis of 9 studies found that concordance significantly predicted treatment completion, with an odds ratio of 1.42. This is a small effect size (Lindhiem et al., 2014). Thus, expectancy, credibility and concordance could lead to higher rates of treatment engagement or study completion, which in turn may lead to better overall outcomes and symptom reduction.

There is increasing evidence that hatha yoga may serve to alleviate depression symptoms (Cramer et al., 2017; Cramer et al., 2013; Uebelacker et al., 2016). Hatha yoga is the most common type of yoga practiced in the U.S., with common styles including Kripalu, Iyengar, Vinyasa, or Viniyoga. Hatha yoga is intended to promote good physical, mental, and spiritual health, and includes physical postures (*asanas*) and breathing exercises (*pranayama*), and may also include meditation. Like other types of treatments, expectancies, credibility, or preferences may enhance or detract from the ability of yoga to have an impact on depression. Starting a yoga program with the expectation that it may be helpful could exert an antidepressant effect in and of itself, or through greater engagement in the yoga program. There may be a fair degree of between-person variability in credibility and expectancy for a non-traditional treatment such as yoga.

We are aware of only one existing study that examined expectancy and credibility in the context of yoga for depression. De Manincor (de Manincor et al., 2016) randomized 101 individuals with elevated depression or anxiety symptoms to either a 6-week yoga intervention or a waitlist control group. Although the yoga group showed significantly greater reductions in depression severity, credibility and expectancy were not associated with outcome.

For the current study, we analyzed data from a recently completed randomized control trial of adults with major depression who remained persistently depressed despite antidepressant medication treatment ($n = 122$). In the parent study, participants were assigned to one of two adjunctive interventions: weekly hatha yoga classes or a health education control class called the Healthy Living Workshop (HLW) (Uebelacker et al., 2017b). Although both types of classes were designed to promote good health, we hypothesized that the yoga intervention would more directly target depression symptoms. We found that, although the groups did not differ on depressive symptoms specifically at the end of the 10-week intervention period, the yoga group had significantly lower average depressive symptoms over time during the combined acute treatment phase and 6-month follow-up period relative to the health education control group. Related, there were significantly more treatment responders in the yoga group at 3-month and 6-month follow-up. Building on this prior work, the aims of the current study were to: 1) compare groups in concordance, credibility, and expectancy at the beginning of the intervention period; 2) examine whether concordance, credibility, or expectancy predicted number of classes attended in either study arm; and 3) examine whether concordance, credibility, or expectancy predicted depression outcome in either treatment arm. In the yoga group only, we also examined whether concordance, credibility,

or expectancy predicted average minutes per week of home yoga practice (another index of treatment engagement). “Concordance” was a binary variable representing whether a participant’s treatment preference matched the group to which he/she was assigned. We assessed treatment preference prior to randomization, and we assessed credibility and expectancy of the assigned intervention (yoga or HLW) after participation in a first session. We hypothesized that: 1) relative to HLW, the yoga intervention would show greater concordance at baseline, and greater credibility and expectancy after the first session; 2) these three variables would predict number of classes attended in both arms and amount of home yoga practice in the yoga arm; and 3) these three variables would predict outcome in both arms.

Methods

The Institutional Review Board of Butler Hospital approved the study. This trial is registered at clinicaltrials.gov (). We recruited participants from the local community. Advertisements presented study interventions with equipoise, using the rationale that both yoga and HLW were designed to promote good physical and mental health. Once participants understood the nature of the study, signed informed consent forms, and were determined to meet most eligibility criteria (Baseline 1 visit), we requested medical clearance from their primary care provider. Once this was received (i.e., they met all eligibility criteria), they were randomized to either yoga or HLW (Baseline 2). Subsequent to randomization, participants were enrolled in the intervention phase of the study for 10 weeks and then in the follow-up phase for 6 months. During the intervention phase, participants were invited to attend up to two classes in their assigned arm. The follow-up phase included assessment only. Staff attempted to contact all participants for all assessments regardless of whether or not they were attending classes.

Participants

Inclusion criteria were: 1) met criteria for major depressive disorder (MDD) within the prior two years assessed via the Structured Clinical Interview for DSM-IV (SCID; First et al., 2001); 2) Quick Inventory of Depression Symptomatology (QIDS) score ≥ 8 (mild depression) and ≥ 17 (moderately severe depression) (Rush et al., 2003); 3) no history of bipolar disorder, schizophrenia, or psychotic symptoms; 4) no current hazardous drug or alcohol use; 5) no suicidal ideation or behavior requiring immediate attention; 6) currently taking an antidepressant at a dose with demonstrated effectiveness per American Psychiatric Association practice guidelines (Work Group on Major Depressive Disorder, 2010) for at least 8 weeks; 7) antidepressant dose had not changed in the previous 4 weeks and no plans to change the dose in the next 10 weeks; 8) if in psychotherapy, therapy frequency had not changed in the past 6 weeks AND no plans to change it in the next 10 weeks; 9) medically cleared for moderate physical activity; 10) not pregnant or planning to become pregnant; 11) no more than 4 yoga, tai chi, Mindfulness Based Stress Reduction or health education classes or home practice sessions in the previous year, no more than 8 yoga classes in the previous 2 years, and had not practiced yoga weekly for 8 weeks or more in the previous 5 years; 12) no weekly meditation practice; 13) fluent in English; and 14) aged 18 or older.

Interventions

Yoga.—Instructors followed a detailed manualized hatha yoga program. Each participant received an introductory 20–30 minute individual meeting with a yoga instructor. Classes were offered twice per week; participants were expected to attend at least one class per week with the option of attending two per week for 10 weeks. Classes were 80 minutes. Classes followed a standard structure which involved breathing exercises (*pranayama*) and seated meditation; warm-ups and half sun salutations; standing postures (*asanas*); seated postures; an inversion and a twist; *shavasana* (relaxation); and wrap-up and discussion of home practice. Breathing exercises included active exhales, *kapalabhaati* breath, and *ujjayi* breath. For each class, teachers chose practices or postures from a limited menu of options. For example, for standing postures, teachers led four poses from the following: Warrior I, Warrior II, Half Moon, Triangle Pose, Straight Legged Runner's Stretch, or Side Angle Pose. They then led two standing twists and one balancing pose. Classes accommodated rolling admission. Instructors were asked to encourage mindful attention to the present moment throughout class, model acceptance of one's own physical abilities, repeatedly guide participants through the connection between breath and movement, and to discuss the importance of home practice. To facilitate home practice, each participant received a yoga mat, descriptions of suggested practices, and relevant videos. All yoga instructors were Registered Yoga Teachers ® with the Yoga Alliance. A senior yoga instructor, the study primary investigator, and other co-investigators provided training for instructors in the study yoga protocol via didactics, review of the manual, and class observation. Instructors met monthly for supervision. As previously reported, we rated study instructors on manual fidelity for a subset of 55 yoga classes (Uebelacker et al., 2017b). Fidelity was excellent for class content (mean fidelity = 95%) and teaching style (mean fidelity = 94%).

Healthy Living Workshop (HLW).—Group HLW classes were offered concurrent with yoga classes. Instructors used a detailed manual. HLW included an initial individual orientation meeting between the instructor and participant. Subsequently, participants were invited to attend at least one and up to two HLW classes per week for 10 weeks. Classes were 60 minutes long. There were 20 different health-related class topics that repeated every 10 weeks. Topics included: alcohol, nicotine, and caffeine; being a smart patient; brain diseases; cancer prevention; diabetes; nutrition (3 classes); germs, colds, and the flu; physical activity (2 classes); sleep; physical pain, prevalence and causes of depression; and protecting your heart. Classes were interactive, but instructors adopted a style similar to teaching an educational seminar and avoided focusing on personal problems of individual participants. To facilitate home learning, each participant received a book about nutrition, handouts at each class, and lists of websites with relevant information. Instructors encouraged participants to read materials each week at home. HLW instructors were post-doctoral fellows in clinical psychology and a master's level nurse. Training and supervision was similar to that of yoga instructors. We rated a subset of 53 classes for instructor fidelity to the manual (Uebelacker et al., 2017b). Fidelity was excellent for both class content (mean fidelity = 97%) and teaching style (mean fidelity = 95%).

Assessments

Assessment schedule.—Assessments occurred at Baseline 1 (eligibility assessment), Baseline 2 (randomization), 3.3 weeks (after randomization), 6.6 weeks, and 10 weeks (endpoint of intervention phase). Thus, participants attended classes in the weeks between Baseline 2 and 10 week endpoint. Follow-up assessments occurred 3 months and 6 months after endpoint.

Primary outcome.—We assessed the primary outcome, depression symptom severity, using the Quick Inventory of Depression Symptomatology -- Clinician Rating (QIDS; Rush et al., 2003) at all assessment timepoints. Scores of 6–10 reflect mild depression symptoms; 11–15 reflect moderate depression symptoms, and scores 16 or greater reflect severe or very severe symptoms. QIDS interviewers were trained research assistants blind to treatment assignment. A second rater rated a random selection of 61 QIDS; inter-rater reliability was excellent (ICC = 0.96).

Other assessments.—At the Baseline 1 visit, treatment preference was assessed with a single question: “If you had a choice, which program would you prefer to be in?” Participants were invited to choose one of 5 options: (1) I have a strong preference for [HLW]; (2) I have a small preference for [HLW]; (3) I am equally interested in both programs; (4) I have a small preference for the yoga program; and (5) I have a strong preference for the yoga program. We considered responses 1, 2, and 3 concordant with receiving HLW; and responses 3, 4, and 5 concordant with receiving yoga.

We assessed credibility and expectancy after the participant attended their first class in either arm. We used the Credibility Expectancy Questionnaire (CEQ) (Deville and Borkovec, 2000). The three credibility items are: “How logical does the program offered to you seem?” “How successful do you think this program will be in reducing your symptoms?” and “How confident would you be in recommending this program to a friend who experiences similar problems?” Participants respond on 9 item Likert-type scales; scales are then combined to yield a total score from 0 (not at all credible) to 1 (very credible). Expectancy items are: “How much improvement in your symptoms do you think will occur?” “How much do you really feel that this program will help you to reduce your symptoms?” and “How much improvement in your symptoms do you really feel will occur?” Responses are combined to yield a total score from 0 (no expectancy for improvement) to 1 (large expectancy for improvement.)

Finally, we assessed amount of home practice in the yoga arm by asking people how many minutes they spent practicing yoga at home over the previous week. We asked this at the 3.3, 6.6, and 10 week assessments, and calculated an average over the intervention period.

Statistical methods

We used SPSS version 22 for all data analyses (IBM Corp., 2013).

Baseline characteristics and other treatment during study participation.—We summarized variables using descriptive statistics, and compared differences between treatment groups (Yoga vs. HLW) using either a X^2 test or t-test.

Predictors of number of classes attended.—Credibility and acceptability were mean centered, and concordance was coded as 1 (concordant) or –1 (not concordant). We constructed three linear regression models with the following predictors: the variable of interest (i.e., credibility, expectancy, or concordance), baseline 1 QIDS score, condition (HLW vs. yoga, dummy-coded), and variable of interest X condition.

Predictors of home practice.—Restricting the sample to the yoga arm only, we regressed average minutes per week of home yoga practice on the variable of interest and baseline 1 QIDS score.

Predictors of depression symptom severity (QIDS) over time.—We constructed three multilevel models with the following predictors: the variable of interest (i.e., credibility, expectancy, or concordance), baseline 1 QIDS score, time, condition (HLW vs. yoga, dummy-coded), the variable of interest X condition, and the variable of interest X time. Consistent with the primary outcome paper, the baseline QIDS was *not* included as part of the dependent variable; rather, the baseline value was included as a covariate. We also centered time at the midpoint. Thus, a significant main effect for the variable of interest (i.e., credibility, expectancy, or concordance) indicates this variable predicts the average QIDS score across all non-baseline timepoints (i.e., weeks 3.3., 6.6., 10 (endpoint), and 3 and 6-month follow-up). A significant interaction effect (e.g., credibility X treatment group) indicates that the impact of this variable on the QIDS differs by group.

Results

Demographics and clinical characteristics at baseline.

Participants included 103 women and 19 men. Participants were Black or African American ($n = 4$), White ($n = 103$), or other or multiracial ($n = 15$). Six participants were Latino. Most participants ($n = 75$) had chronic depression. Mean level of depression symptoms on the QIDS at baseline was 12.87 ($SD = 2.78$). There were no significant differences between groups on these or other baseline demographic or clinical characteristics (Uebelacker et al., 2017b).

Other treatment during study participation.

As reported in our previous publication (Uebelacker et al., 2017b), at the 10-week, 3-month, and 6-month assessment timepoints, 95%–100% of participants reported that they continued to take an antidepressant medication, and approximately 40% reported engaging in psychotherapy. There were no significant differences between intervention arms on either variable. During the initial 10-week period, 11 people changed their status vis a vis psychotherapy: 3 people started psychotherapy and 8 people stopped engaging in therapy.

Baseline characteristics.

As can be seen in Table 1, significantly more participants in the yoga arm received the intervention that they preferred, and yoga was rated as more credible and with greater expectancy for improvement than HLW. However, note that, when mean credibility and expectancy scores are considered, HLW still received scores above the midpoint on the scale.

Prediction of treatment engagement.

In Table 2, we present linear regression models testing whether concordance, credibility, or expectancy predicted number of classes attended (whole sample) or minutes per week of home yoga practice (yoga arm only). We did not find any significant effects.

Prediction of change in depression symptoms.

Finally, we examined whether concordance, credibility, or expectancy predicted depression symptoms. As can be seen in Table 3, we did not find a significant effect for concordance or for the concordance X group interaction. However, we did see a trend toward a credibility X group effect, and the expectancy X group effect was statistically significant. We created a graphical representation of the effect in Figure 1. Assuming participants started at an average QIDS severity level at BL1 (QIDS = 12.87), we plotted predicted depression symptom scores (QIDS) over all other timepoints by 1) group and 2) level of expectancy (i.e., sample mean – 1 SD, mean, and mean + 1 SD). As can be seen in this graph, depression severity over time differs by expectancy for the yoga group but not for the HLW group. Participants in the yoga group with an average or high (1 SD above mean) expectancy for improvement showed lower depression symptoms across the assessment period (i.e., weeks 3.3, 6.6, and 10, and months 3 and 6) than those with a low expectancy (1 SD below mean) for improvement.

Discussion

In this study, we found the expectancy that an intervention for depression would be helpful in fact predicted a better outcome in terms of symptom reduction, but only for the group that received yoga classes, and not for the group that received the health education control condition. We found a non-significant but similar trend for credibility. The fact that expectancy did not predict outcome for individuals in the health education group suggests that the expectancy may improve the likelihood of success only when one is receiving an intervention is designed to actively and directly target depression symptoms. That is, the expectancy that one will improve is insufficient in and of itself. These results are different from those previously reported by de Manincor et al. (de Manincor et al., 2016). De Manincor did not find that expectancy was predictive of outcome; however, there are numerous differences between the two studies, including the use of a clinical sample, an active control group, and a longer period of intervention in the current study. Given the many methodologic differences, it is difficult to say what could plausibly account for the divergent findings without having results from other similar studies to inform such an explanation.

We hypothesized that expectancy would exert its impact on depression outcome in part by increasing intervention engagement. However, we did not find that expectancy predicted the number of classes attended; expectancy of improvement alone may be insufficient to overcome some barriers to attendance. Further, within the yoga arm, expectancy (and other variables) did not predict amount of home practice either. There are other possible explanations for the effect of expectancy on symptomatic outcome. Yoga is a cognitive intervention as much as it is a physical one. That is, yoga participants are invited to practice mindfulness, i.e., to focus attention on their present moment experiences in a nonjudgmental way. Greater expectancy of success may lead to more whole-hearted embrace of these subtler, cognitive practices associated with yoga, which in turn may be associated with more improvement in depression. A second, and related possibility, is that people with greater expectancy of success were more likely to engage in informal practice (e.g., noticing one's breath while in a stressful situation) during the week. Previous analyses of qualitative data suggest that participants in this study did engage in this type of practice (Uebelacker et al., 2017a), and other researchers have also found that people who participate in a yoga class continue to use "tools" learned in yoga, such as breathing practices, gentle stretching, or "centering" even a year after the class (Kinser et al., 2014). However, due to its brevity and integration with day-to-day life, this kind of informal practice may not be reflected in participants' responses regarding minutes per week of home practice in the current study.

We failed to find that concordance or the concordance X group interaction predicted outcome. This was surprising given our findings for expectancy. It is possible that power was more limited to test the concordance hypothesis because concordance was a categorical variable, and there were very few people who were "not concordant" in the yoga arm of the study. The existing literature on concordance suggests that the effect may be a real effect but small in magnitude (Lindhiem et al., 2014). If future studies directly compared the effect of expectancy and of concordance, and showed that expectancy was a stronger predictor of outcome than concordance, this would suggest an important difference between the two constructs. Note that concordance was measured prior to randomization, and expectancy and credibility are measured after the first class. It is possible that one's reactions to the first class may be more important predictors of outcome than one's initial preferences.

There are several limitations to the study presented here. First, these were secondary, post-hoc analysis, and therefore should be considered to be hypothesis-generating rather than hypothesis-confirming. In order to have full confidence in these findings, they need to be replicated. Second, as demonstrated in Table 1, there were differences between groups in concordance, credibility, and expectancy, with the yoga intervention viewed more favorably than the health education intervention. Although research staff and written advertisements always tried to present the two treatment arms with equipoise, participants likely had pre-existing ideas about what will be helpful for depression. This is a problem in many behavioral studies in which participants cannot be blind to which intervention they are receiving, and one of the interventions is intended as a control rather than active intervention. Although there were significant differences, we were pleased that the magnitude of the effect size difference between groups was not larger than it was. (They were in the range of a small to medium effect). Third, we did not measure other potential ways in which credibility or expectancy may have an impact on depression, such as through

an increased sense of hope (Chambers et al., 2015). Finally, as the study participants only included people who were taking antidepressant medications and continued to have elevated symptoms, these results may not be generalizable to a wider group of depressed individuals.

Conclusion

Credibility and expectancy have often been conceptualized simply as unwanted nuisance variables. That is, in behavioral trials, researchers struggle to match the credibility and expectancy for the control condition to that of the experimental intervention condition. Certainly, one does not want to offer a control intervention that has no credibility whatsoever. However, given the potential impact of patients' perceptions regarding an intervention's credibility, and expectations that the intervention may be helpful, it is also useful for both clinicians and researchers to think about how to systematically harness and increase expectancy and credibility so as to maximize the impact of an intervention. Future research on yoga for depression should also measure expectancy and credibility in order to replicate the current results suggesting that expectancy may serve as a moderator of outcome.

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Highlights

- We conducted an RCT of yoga vs. health education for people with depression
- Higher expectancies for improvement were associated with more improvement with yoga
- Expectancy for improvement was not associated with improvement in the control arm
- There was a trend for a similar pattern for credibility
- Expectancy and credibility were not associated with intervention adherence

Figure 1.
Predicted mean values of depression over time based on treatment group and expectancy, assuming baseline depression value of QIDS=12.87.

Table 1.

Comparison of baseline characteristics and number of classes attended between treatment groups.

Variable	Overall		Yoga		HLW		Between Group Differences			Effect size
	<i>n</i> or mean	% or <i>SD</i>	<i>n</i> or mean	% or <i>SD</i>	<i>n</i> or mean	% or <i>SD</i>	X ² /t	<i>df</i>	<i>p</i>	<i>Cohen's d</i>
Baseline characteristics										
Concordance							21.14	1	.000	
Concordant	89	74%	57	92%	32	55%				
Not Concordant	31	26%	5	8%	26	45%				
Credibility	0.81	0.17	0.86	0.13	0.75	0.20	−3.35	108	.001	0.65
Expectancy	0.65	0.21	0.69	0.17	0.60	0.24	−2.36	108	.020	0.43
Adherence										
Number of classes attended	7.98	5.47	8.87	5.13	7.03	5.71	−1.88	120	.063	0.34

Table 2.

Regression models testing whether concordance, credibility, or expectancy predict total treatment engagement

	<i>Predicting Total Number of Classes Attended</i>				<i>Predicting Average Minutes per Week of Home Yoga Practice (Yoga arm only)</i>			
	B	SE	t	p	B	SE	t	p
<i>Model testing concordance</i>								
<i>Overall model</i>	<i>F(4,115) = 1.196, p = 0.316</i>				<i>F(2,56) = 0.474, p = 0.625</i>			
Concordance	.586	.724	.809	.420	10.558	11.307	.934	.354
Baseline QIDS (depression)	-.080	.183	-.434	.665	1.055	2.218	.476	.636
Group: Yoga vs HLW	1.678	1.480	1.134	.259	--	--	--	--
Group X Concordance	-.179	1.485	-.121	.904	--	--	--	--
<i>Model testing credibility</i>								
<i>Overall model</i>	<i>F(4,105) = 0.639, p = 0.636</i>				<i>F(2,55) = 0.304, p = 0.739</i>			
Credibility	-2.856	3.675	-.777	.439	38.919	51.625	.754	.454
Baseline QIDS (depression)	-.155	.181	-.856	.394	.522	2.193	.238	.813
Group: Yoga vs HLW	.904	1.043	.867	.388	--	--	--	--
Group X Credibility	6.438	6.430	1.001	.319	--	--	--	--
<i>Model testing expectancy</i>								
<i>Overall model</i>	<i>F(4,105) = 0.482, p = 0.749</i>				<i>F(2,55) = 0.054, p = 0.947</i>			
Expectancy	-1.939	3.119	-.622	.535	-11.668	44.319	-.263	.793
Baseline QIDS (depression)	-.169	.189	-.897	.372	.203	2.370	.086	.932
Group: Yoga vs HLW	1.056	1.019	1.036	.303	--	--	--	--
Group X Expectancy	.781	5.186	.151	.881	--	--	--	--

Table 3.

Multilevel linear models testing whether concordance, credibility, or expectancy predict depression symptoms over follow-up.

	Parameter estimate	Confidence interval	SE	<i>p</i>
<i>Model testing concordance</i>				
Intercept	−1.587	(−4.411, 1.237)	1.424	0.268
Baseline QIDS (depression)	0.890	(0.681, 1.098)	0.105	0.000
Time	−0.040	(−0.074, −0.006)	0.017	0.022
Concordance	0.252	(−0.605, 1.109)	0.432	0.561
Time X Concordance	−0.022	(−0.056, 0.012)	0.017	0.204
Group: Yoga vs HLW	−2.140	(−3.799, −0.480)	0.837	0.012
Concordance X Group	0.817	(−0.850, 2.483)	0.841	0.333
<i>Model testing credibility</i>				
Intercept	−1.216	(−4.045, 1.614)	1.427	.396
Baseline QIDS (depression)	0.877	(0.667, 1.088)	0.106	.000
Time	−0.050	(−0.08, −0.021)	0.015	.001
Credibility	1.765	(−2.515, 6.046)	2.158	.415
Time X Credibility	0.136	(−0.029, 0.300)	0.084	.106
Group: Yoga vs HLW	−1.155	(−2.394, 0.084)	0.625	.067
Credibility X Group	−6.848	(−14.508, 0.812)	3.860	.079
<i>Model testing expectancy</i>				
Intercept	−0.523	(−3.464, 2.418)	1.483	.725
Baseline QIDS (depression)	0.824	(0.604, 1.043)	0.111	.000
Time	−0.051	(−0.08, −0.021)	0.015	.001
Expectancy	1.811	(−1.828, 5.45)	1.835	.326
Time X Expectancy	0.103	(−0.041, 0.246)	0.073	.161
Group: Yoga vs HLW	−1.213	(−2.414, −0.012)	0.605	.048
Expectancy X Group	−6.561	(−12.803, −0.319)	3.147	.040