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A randomized pilot trial of a positive affect skill intervention (lessons in linking affect and coping) for women with metastatic breast cancer

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Abstract

Background—We conducted a randomized pilot trial to examine the feasibility, acceptability, and preliminary efficacy of a 5 week positive affect skills intervention (LILAC: lessons in linking affect and coping) for women with metastatic breast cancer. Additionally, we examined whether online delivery of the intervention would offer comparable benefits as in-person delivery.

Methods—Women with metastatic breast cancer ($N = 39$) were randomized to an in-person intervention, online intervention, or in-person attention-matched control. Psychological well-being (depression [Center for Epidemiologic Studies Depression Scale], positive and negative affect [Differential Emotions Scale], cancer-specific quality of life [Multidimensional Quality of Life Scale—Cancer Version]), and positive coping (mindfulness, positive-affect skill use, and self-compassion [Self-Compassion Scale: Short-Form]) were assessed at baseline, 1 week post-intervention, and 1 month post-intervention follow-up.

Results—The LILAC intervention showed good feasibility, acceptability, and retention. Although the study was not adequately powered to detect between-group differences in change on preliminary efficacy outcomes, within-group comparisons revealed that LILAC participants (in-person and online combined) showed reductions in depression and negative affect by the 1 month follow-up ($d = -0.81$). Notably, LILAC participants fell below the clinical threshold for depression (Center for Epidemiologic Studies Depression Scale = 16) by the 1 month follow-up ($t[17] = -2.22$, $P = .04$, $d = -0.52$), whereas control participants did not differ from threshold ($t[9] = 0.45$, $P = .66$, $d = 0.14$).

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CONFLICT OF INTEREST

The authors certify that they have no affiliations with or involvement in any organization or entity with any conflicts of interest, such as financial interest or non-financial interest in the subject matter or materials discussed in this manuscript.

Conclusions—The LILAC intervention, regardless of delivery method, shows feasibility, acceptability, and preliminary efficacy for promoting psychological well-being in women with metastatic breast cancer. This research provides support for a larger randomized trial to test more definitively the potential benefits of LILAC. A strength of the LILAC intervention includes its innovative focus on positive affect. The efficacy of the online delivery suggests the potential for widespread Internet dissemination.

Keywords

cancer; oncology; metastatic breast cancer; positive Affect; well-being; online

1 | BACKGROUND

Women diagnosed with metastatic breast cancer face a life-threatening illness with uncertain prognosis and chronic and debilitating treatment regimens. Given these circumstances, it is not surprising that the prevalence of depression and anxiety tends to be elevated in women with advanced cancer.¹ Although most psychological interventions for women with breast cancer focus on targeting negative affect (e.g., stress and depression), in women with early stage cancer,^{2–4} a growing body of theory and research suggests that positive affect (e.g., happiness and gratitude) plays a uniquely important role in promoting psychological adjustment in the face of chronic stress.^{5,6}

Positive affect has been theorized to facilitate coping in the context of stressful life events, by providing a psychological “time-out” from the distress; by replenishing the social, intellectual, and physical resources that may have been depleted by the stress; and by motivating and sustaining ongoing efforts to cope.^{7,8} Findings from recent studies in a variety of seriously ill and healthy samples demonstrate that positive affect is associated with significantly lower risk of morbidity and mortality, independent of the effects of negative affect and other potential confounders (e.g., exercise, smoking, body mass index, sociodemographic factors, and baseline medical conditions).^{5,9–11} These findings suggest that positive affect may be an important target for interventions aimed at facilitating coping with serious illness. To our knowledge, only 1 intervention for women with breast cancer explicitly targeted positive affect.¹² Schnur and colleagues randomized 40 women with early-stage breast cancer to receive either cognitive behavioral therapy and hypnosis (CBTH) or standard care. As part of the hypnosis, CBTH participants received explicit suggestions for how to increase positive affect. Findings indicated that CBTH patients experienced increased positive affect and decreased negative affect relative to standard care participants.

Given that most psychological interventions for women with breast cancer focus on reducing negative affect in women with early stage cancer,^{2–4} little is known about whether positive affect may play a uniquely important role in helping women with advanced breast cancer cope with the stress of their disease. We sought to address this gap by conducting a randomized pilot study to examine the feasibility, acceptability, and preliminary efficacy of a positive affect skill intervention for women with metastatic breast cancer (the LILAC intervention: lessons in linking affect and coping). We have developed a 5-session positive

affect skill intervention that shows promise for improving psychological and physical well-being among people experiencing significant life stress.¹³ This intervention involves teaching participants 8 empirically validated skills for increasing the frequency of positive affect experienced in their daily lives. Additional details of the development of the intervention and the rationale for the inclusion of each of the skills are published elsewhere.^{13–15} Whereas most current programs depend on in-person delivery, which can be time-intensive and costly, we modified our program to enable online delivery of the sessions.¹⁴ In the present study, we compared the feasibility, acceptability, and preliminary efficacy of the online delivery of the intervention with in-person delivery. We hypothesized that patients who received the LILAC intervention would experience improvements in psychological well-being and increases in their positive coping relative to controls. Finally, we hypothesized that the online delivery of the intervention would lead to comparable outcomes in terms of feasibility, acceptability, and preliminary efficacy as the in-person delivery.

2 | METHOD

2.1 | Participants

Thirty-nine women ($M_{\text{age}} = 53.35$, $SD = 11.22$, range: 30–73) with metastatic breast cancer participated in the study. The participants were patients at the University of California, San Francisco (UCSF) Helen Diller Family Comprehensive Cancer Center. Eligibility criteria included (a) having electronic-health record confirmed stage IV breast cancer, (b) the ability to speak English fluently, (c) being 18 years old or older, (d) having access to a computer and the Internet on at least a weekly basis, and (e) having the ability to provide informed consent to be a research participant. Exclusion criteria were (a) greater than mild cognitive impairment (as assessed by DS), (b) unmedicated bipolar disorder (due to concerns that a positive affect intervention could potentially trigger mania), or (c) active psychosis (as assessed by LD or DS). The participants were paid \$30 for each completed session, for a total of \$210 if all sessions, and follow-up assessments were completed. All procedures were approved by the UCSF Committee on Human Research.

2.2 | Procedure

The participants were randomly assigned to 1 of 3 groups by using simple randomization (a) in-person intervention ($N = 14$), (b) online intervention ($N = 12$), and (c) in-person attention-matched control ($N = 13$). The randomization schedule was generated by the study statistician and the project director, who informed the participants of their condition assignment and was blind to condition until this point. The intervention consisted of 5 weekly 1 hour sessions in which the participants learned 8 empirically based skills designed to increase the frequency of positive emotions. The 8 skills are as follows: (a) noticing positive events,¹⁶ (b) capitalizing on or savoring positive events,^{17,18} (c) gratitude,¹⁹ (d) mindfulness,^{20,21} (e) positive reappraisal,^{7,22} (f) focusing on personal strengths,²³ (g) setting and working toward attainable goals,²⁴ and (h) small acts of kindness^{25,26} (Table 1). At each session, the participants were taught up to 3 of the skills and were asked to practice each skill as “home practice” every day until the next weekly session.

The participants in the in-person intervention condition completed the sessions at UCSF with a trained facilitator, whereas the participants in the online-intervention condition received the same content delivered online through self-paced modules. Specifically, on the first 1 to 2 days of each week, the online-intervention participants were able to access an online lesson that introduced that week's skill(s) and were asked to complete their home practice between sessions. New lessons became available 7 days after beginning the previous lesson. The participants in the in-person control condition also had 5 hourly one-on-one sessions at UCSF with the same trained facilitators as those in the intervention condition. The control sessions consisted of an interview without a didactic portion or skill practice. In each weekly session, the facilitator asked the control participants qualitative and quantitative questions that centered on a theme: (a) life history, (b) use of complementary and alternative medicine, (c) diet and exercise, (d) social networks, and (e) meaning and spirituality. Home practice for the control group consisted of completing daily emotion reports. The facilitators were experienced interviewers with backgrounds in community-based or public health research. The facilitators underwent extensive training (approximately 40 h of didactic and observational training specific to delivery of the intervention). The facilitator sessions were audiotaped and regularly reviewed by the project director to ensure adherence to the protocol. Additional details of the training are discussed elsewhere.^{13,15}

2.2.1 | Study evaluation—At the post-intervention assessment, all participants were contacted by phone to discuss their personal experience with the intervention and their plans for continued practice of the skills. The participants were asked to rate how likely they were to recommend the program to a friend or to someone with breast cancer by using the following scale: 0 = *definitely not* to 10 = *definitely*. Finally, the intervention participants (both in-person and online delivery) were asked to indicate how frequently they planned to practice each skill, using the following scale: 0 = *not at all* to 4 = *daily*. At the 1 month follow-up, the intervention participants reported how often they practiced each skill in the past month, using the same scale. The post-intervention and follow-up assessments were completed by a study coordinator who was blind to participant condition.

2.2.2 | Preliminary efficacy—The preliminary efficacy measures were assessed at baseline, 1 week post intervention and 1 month post intervention. During the assessment sessions, we assessed psychological well-being as follows: Depression was measured by using the 20-item Center for Epidemiologic Studies Depression Scale (CES-D)²⁷ ($\alpha > 0.86$), (b) positive and negative emotion were measured by using a modified version of the Differential Emotions Scale²⁸ that includes a wider range of positive emotions than the original Differential Emotions Scale ($\alpha > 0.74$), and (c) cancer-specific quality of life was measured by using the 41-item Multidimensional Quality of Life Scale—Cancer Version²⁹ ($\alpha > 0.77$).

We assessed the participants' positive coping as follows: Mindfulness was assessed by selecting 12-items from 4 recently developed mindfulness scales^{30–33} ($\alpha > 0.79$). The remaining 7 positive affect skills taught in the intervention were assessed by using a 9-item self-report scale that we developed for the purposes of the study ($\alpha > 0.76$). Finally, we assessed self-compassion and the tendency to be kind and understanding toward oneself in

instances of pain and failure, using the 12-item Self-Compassion Scale: Short-Form³⁴ ($\alpha > 0.82$).

3 | RESULTS

3.1 | Feasibility and acceptability

3.1.1 | Study recruitment, enrollment, and retention—The participants were recruited through (a) referral by a clinician (MM or DS) at the UCSF Helen Diller Family Comprehensive Cancer Center ($N = 20$), (b) a survey that patients completed at the center ($N = 56$), or (c) flyers posted around the center ($N = 23$). One participant was referred to the study by a social worker, and 5 participants did not indicate how they found out about the study. Participant recruitment and data collection occurred between August 2011 and May 2014. As seen in Figure 1, 104 patients were screened. Of these patients, 4 were not eligible for participation (1 patient did not have stage IV cancer, 2 patients did not have regular Internet access, and 1 patient lived out of state) and 51 participants declined. Reasons for declining included distance and/or time constraints ($N = 35$), feeling too ill/fatigued ($N = 8$), or lack of interest ($N = 8$). Of the 49 patients who were eligible and indicated interest, 39 were randomized (10 participants were unresponsive to contact attempts). Four participants passed away over the course of the study, and 27 participants of the remaining sample (77%) were retained through the 1 month follow-up (2 participants chose to discontinue the study, and we lost contact with 6 participants). Retention did not differ by randomization. Reasons for discontinuing included time constraints, feeling too ill/fatigued, and lack of interest in the intervention content.

Of the final sample of participants, average time post-metastatic diagnosis was 2.58 years ($SD = 3.12$, range 1 month to 12 years). Most participants (64%) were receiving radiation or chemotherapy at the time of the baseline assessment. The sample was well-educated, with 30 participants (77%) having a college degree or higher. Moreover, the sample was relatively affluent, with 12 participants (31%) reporting an annual household income of \$100 000 or more and 11 participants (28%) reporting an annual household income between \$50 000 and \$100 000. In the sample, 25.6% was currently employed. The participants who were currently employed reported working an average of 19.60 hours per week ($SD = 9.70$). The sample was 74% white, 8% Asian/Pacific Islander, 5% multiracial/multicultural, 2.5% black/African American, 2.5% Hispanic/Latina, and 8% who identified as other races or declined to answer. At baseline, there was no difference by condition on any indicator of psychological well-being or positive coping ($P > .51$). Furthermore, the average level of depressive mood for the sample at baseline was above the clinical threshold of 16 on the CES-D scale ($M = 19.26$, $SD = 11.47$). The fact that the participants were motivated to participate in the study, despite elevated depressed scores, provides support for feasibility of recruitment.

3.1.2 | Study evaluation—Adherence to the home practice was high. The participants completed their home practice approximately 5 days per week ($M = 5.28$ 95% confidence interval [4.60, 5.87]), which did not differ by randomization ($P = .14$). Furthermore, the participants across all 3 conditions strongly agreed that they would recommend the program

to a friend ($M = 8.56$ [7.59, 9.54]; maximum 10) or someone with breast cancer ($M = 8.75$ [7.89, 9.61]; maximum 10), neither of which differed by randomization ($P > .28$). At the post-intervention follow-up, the participants in both the in-person and online intervention groups indicated that they intended to practice the positive-affect skills relatively frequently ($M = 3.07$ [2.77, 3.36]; maximum 4), which did not differ by delivery method (in-person vs online; $P = .54$). Indeed, the participants reported continued practice of the positive affect skills at the 1 month follow-up ($M = 2.70$ [2.32, 3.09]; maximum 4), which did not differ by delivery method ($P = .55$).

3.2 | Preliminary efficacy

3.2.1 | Analytic plan—To examine the preliminary efficacy of the intervention, we conducted longitudinal growth modeling,³⁵ nesting assessment waves within a participant, to assess whether the participants who received the LILAC intervention showed improvements in their psychological well-being and positive coping over time. We did not find any differences between the online vs in-person delivery of the intervention on any indicator of feasibility or acceptability. Moreover, for the preliminary efficacy outcomes, the online vs in-person delivery groups did not significantly differ at any assessment point ($P > .26$), and both groups showed equivalent longitudinal trajectories of change ($P > .34$). As such, we combined the 2 intervention groups for analysis. We modeled time at Level 1 and intervention condition (dummy coded: intervention = 1, control = 0) at Level 2.

For our analysis, we first examined the trajectories of change within each treatment group from baseline to the post-intervention assessment and from baseline to the 1 month follow-up (Table 2). Second, we examined whether there were between-group differences in the magnitude of change from baseline to the post-intervention and 1 month follow-ups (Table 3). Below, we present the results for the models examining the longitudinal effects of the intervention, without controlling for any covariates. Findings remain unchanged when controlling for time since breast cancer diagnosis, time since metastatic diagnosis, age, and chemo/radiation therapy.

3.2.2 | Psychological well-being—As seen in Table 2, the participants in both the intervention and control conditions began the study at baseline with depression scores that were above the clinical threshold for depression on the CES-D (scores > 16). However, the participants who received the LILAC intervention (both in-person and online) showed statistically significant reductions in depression at the 1 month follow-up assessment relative to baseline ($P = .03$), and the effect size for this reduction was large, $d = -0.81$. In contrast, the control participants' depression levels remained elevated throughout the study ($P > .83$). Furthermore, we conducted one-sample t tests at the 1 month follow-up comparing whether LILAC and control participants significantly differed from the clinical threshold (CES-D = 16). Notably, the LILAC participants' depression scores dropped significantly below the clinical threshold for depression (CES-D = 16) by the 1 month follow-up ($t[17] = -2.22$, $P = .04$, $d = -0.52$), whereas the control participants' scores did not differ from the clinical threshold ($t[9] = 0.45$, $P = .66$, $d = 0.14$). Likewise, the participants who received the LILAC intervention (both in-person and online) showed statistically significant reductions in negative affect at both the post-intervention and 1 month follow-up assessments relative to

baseline ($P < .02$). Surprisingly, we did not find intervention effects on positive affect ($P > .20$) or cancer-specific quality of life ($P > .22$). As seen in Table 3, we did not find any significant between-group differences in change from baseline to the post-intervention assessment or the 1 month follow-ups.

3.2.3 | Positive coping—As seen in Table 2, we did not find any significant within-group changes in positive coping from baseline to the post-intervention and 1 month follow-ups. However, within participants who received the LILAC intervention (both in-person and online), we found marginally significant trends toward increased positive-affect skill use, mindfulness, and self-compassion by the 1 month follow-up ($P < .08$), and the effect sizes for these increases were medium to large, $0.50 < d < 0.91$. In contrast, the control participants did not change in their positive-affect skill use, mindfulness, and self-compassion over time ($P > .34$). As seen in Table 3, we did not find any significant between-group differences in the extent that their positive coping changed from baseline to the post-intervention or 1-month follow-ups; however, we found small-to-medium effect sizes $0.14 < d < 0.54$ in favor of the LILAC participants increasing in positive coping to a greater extent than controls.

4 | CONCLUSIONS

The current pilot study provided evidence demonstrating the feasibility, acceptability, and preliminary efficacy of a positive-affect skill intervention for women with metastatic breast cancer. Four participants passed away over the course of the study, and 77% of the remaining sample were retained through the 1 month follow-up. Retention did not differ by condition. Furthermore, adherence to the home practice was high, and the LILAC participants reported continued practice of the skills 1 month after the completion of the intervention. In addition, the participants indicated strong agreement that they would recommend the intervention to their friends and to people diagnosed with breast cancer. Although the study was not adequately powered to detect between-group differences in change on preliminary efficacy outcomes, within-group comparisons revealed that the participants who received the intervention fell significantly below clinical thresholds for depression (scores < 16) by the 1 month follow-up, whereas the control participants' depression levels remained elevated throughout the study. Moreover, the LILAC participants showed statistically significant reductions in negative affect at both the post-intervention and 1 month follow-ups. We did not observe concurrent effects of the intervention on positive affect or cancer-related quality of life.

We were surprised that we did not find intervention effects on positive affect, given that the LILAC intervention was explicitly designed to increase positive affect. One explanation for why we may not have found effects of the intervention on positive affect may be because our control condition was active, social, and may have offered content that was more relevant to end-of-life care (e.g., meaning and spirituality). Perhaps positive affect interventions for advanced cancer patients should target related positive constructs, such as meaning and purpose,³⁶ instead of simply targeting positive affect. Another alternative explanation for why we did not find intervention effects on positive affect may be due to our measurement of positive affect in this study. We assessed emotion by using the Differential Emotions

Scale,²⁸ which asks the participants to make global assessments of their emotions over the past week, and the participants may not be accurate in making such assessments.³⁷ Indeed, measures that assess emotions as they are linked to moments or events such as the ecological momentary assessment³⁸ or the Day Reconstruction Method³⁹ may better capture people's daily experience of emotion.

The findings from the present investigation suggest that the online delivery of the intervention offers comparable benefits for psychological well-being relative to in-person delivery. Given that in-person facilitator-administered interventions tend to be time intensive, costly, and difficult to disseminate, the efficacy of the online delivery is especially promising and suggests the potential for widespread dissemination of the intervention over the Internet.

One strength of the current work is the use of an active, attention- matched control condition rather than a wait-list control. The utilization of an active attention-matched control offers a rigorous test of our intervention and rules out the alternative hypotheses that our intervention effects could be explained by differences in engagement or contact time with a sympathetic and supportive facilitator. Furthermore, whereas most psychological interventions for women are designed for women with early-stage cancers, we targeted women with metastatic breast cancer in this intervention, which is a relatively understudied population, particularly with respect to psychological interventions. One limitation of the current work is that the small sample size of this study did not afford the power necessary to detect significant between-group differences in longitudinal change. An additional limitation is that the sample in this study was primarily white and relatively high in socioeconomic status. Future research should examine whether the results from the current study generalize to larger, more diverse samples.

Taken together, the results of the present investigation suggest that the LILAC intervention holds promise as a feasible, acceptable, and effective intervention for promoting psychological well-being in women with metastatic breast cancer. Based on the promising outcomes of the LILAC intervention from this pilot, we are planning a larger randomized trial with more diverse samples to more definitively assess the efficacy of the LILAC intervention for women with advanced breast cancer.

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FIGURE 1.
CONSORT diagram

TABLE 1

Overview of the skills and content of the lessons in linking affect and coping (LILAC) intervention

Session number	Skills	Session content
1	1. Positive events	1. Learning to recognize positive events (e.g., a good conversation with a friend and a good cup of coffee) and the associated positive affect
	2. Capitalizing	2. Practicing ways to amplify the experience of positive events (e.g., taking an extra moment to savor the experience as it is happening, reliving the positive experience, and telling someone else about the positive experience)
	3. Gratitude	3. Taking a moment to feel thankful or appreciative of the things you have in life (e.g., family, a sunny day, and a good night's rest)
2	4. Mindfulness	4. Learning and practicing the awareness and nonjudgment components of mindfulness
3	5. Positive	5. Understanding positive reappraisal and the idea that different forms of positive reappraisal can all lead to increased reappraisal positive affect in the face of stress (e.g., seeing the "silver lining", finding out that things were not as bad as they could have been, seeing that things were not as bad as you initially thought they were, and identifying good things that came out of the event)
4	6. Personal strengths	6. Participant lists his or her personal strengths and notes how they may have used these strengths recently (e.g., having a good sense of humor and being artistic)
	7. Achievable goals	7. Understanding characteristics of attainable goals and setting goals for the week
5.	8. Acts of kindness	8. Understanding that small acts of kindness can have a big impact on positive emotion (e.g., buying the person behind you in line a cup of coffee)

TABLE 2

Within-group change in psychological well-being and positive coping from baseline to the post-intervention and 1 month follow-ups

Outcome	Baseline <i>M</i> (SE)	Post intervention <i>M</i> (SE)	Within-group change from baseline to post intervention		Within-group change from baseline to 1 month follow-up		
			<i>P</i>	<i>d</i>	1 month follow-up <i>M</i> (SE)	<i>P</i>	<i>d</i>
Psychological well-being							
Positive affect							
LILAC (combined)	2.51 (0.12)	2.63 (0.14)	.53	0.32	2.75 (0.14)	.20	0.41
Control	2.33 (0.17)	2.53 (0.18)	.41	0.40	2.79 (0.19)	.15	0.81
Negative affect							
LILAC (combined)	1.26 (0.10)	0.85 (0.12)	.01	−0.69	0.87 (0.13)	.02	−0.81
Control	1.53 (0.15)	1.19 (0.16)	.13	−0.74	1.19 (0.17)	.13	−0.94
Depressive mood							
LILAC (combined)	18.58 (2.04)	13.64 (2.39)	.12	−0.37	11.61 (2.45)	.03	−0.81
Control	20.62 (2.89)	17.82 (3.14)	.51	−0.30	17.10 (3.29)	.42	−0.52
Quality of life							
LILAC (combined)	5.01 (0.25)	5.47 (0.29)	.22	0.90	5.41 (0.30)	.30	0.76
Control	5.00 (0.35)	5.11 (0.38)	.83	0.15	5.06 (0.40)	.91	0.10
Positive coping							
Positive skills							
LILAC (combined)	4.14 (0.10)	4.41 (0.12)	.09	0.65	4.43 (0.12)	.08	0.50
Control	4.03 (0.15)	4.01 (0.16)	.91	0.05	4.24 (0.17)	.34	0.62
Mindfulness							
LILAC (combined)	3.50 (0.11)	3.66 (0.13)	.36	0.65	3.83 (0.13)	.056	0.91
Control	3.51 (0.15)	3.52 (0.17)	.94	0.05	3.63 (0.18)	.59	0.31
Self-compassion							
LILAC (combined)	3.24 (0.15)	3.66 (0.17)	.07	0.77	3.66 (0.18)	.07	0.86
Control	3.27 (0.21)	3.34 (0.23)	.82	0.15	3.30 (0.24)	.92	0.07

P and *d* correspond to the contrast tests for within-group change from baseline to the post-intervention and 1 month follow-ups. LILAC, lessons in linking affect and coping.

TABLE 3

Between-group change in psychological well-being and positive coping from baseline to the post-intervention and 1 month follow-ups

Outcome	Post intervention			Mean difference between groups in change from baseline to post intervention			Mean difference between groups in change from baseline to 1 month follow-up		
	M_{change}	(SE)		b_{diff}	P	d	M_{change}	(SE)	d
Psychological well-being									
Positive affect									
LILAC (combined)	0.11	(0.18)		-0.09	.78	-0.14	0.24	(0.18)	-0.21
Control	0.20	(0.25)					0.37	(0.25)	
Negative affect									
LILAC (combined)	-0.40	(0.16)		-0.07	.81	-0.11	-0.39	(0.16)	-0.08
Control	-0.34	(0.22)					-0.34	(0.22)	
Depressive mood									
LILAC (combined)	-4.93	(3.14)		-2.13	.71	-0.19	-6.97	(3.19)	-0.30
Control	-2.80	(4.27)					-3.51	(4.38)	
Quality of life									
LILAC (combined)	0.46	(0.38)		0.35	.59	0.30	0.40	(0.38)	0.29
Control	0.11	(0.51)					0.06	(0.53)	
Positive coping									
Positive skills									
LILAC (combined)	0.27	(0.16)		0.30	.29	0.54	0.29	(0.16)	.77
Control	-0.02	(0.22)					0.21	(0.22)	0.14
Mindfulness									
LILAC (combined)	0.15	(0.17)		0.14	.64	0.22	0.33	(0.17)	.51
Control	0.02	(0.23)					0.13	(0.23)	0.31
Self-compassion									
LILAC (combined)	0.41	(0.23)		0.34	.37	0.38	0.42	(0.23)	.32
Control	0.07	(0.31)					0.03	(0.32)	0.51

b_{diff} , P , and d correspond with the contrast tests for the mean difference between treatment groups in change from baseline to follow-ups. LILAC, lessons in linking affect and coping.