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A Positive Affect Intervention for People Experiencing Health-Related Stress: Development and Non-randomized Pilot Test

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Abstract

In this paper we present background, theoretical rationale, and pilot data on the development of an intervention designed to increase positive affect in people living with serious health-related stress. This proof-of-concept study demonstrated that a multiple-component positive affect intervention is feasible and acceptable for people newly diagnosed with HIV. Retention in the intervention and adherence to home practice were high. Participants reported significant increases in positive affect and significant decreases in negative affect. This positive affect intervention can serve as a template for programs to be developed to help people experiencing health-related and other types of life stress.

Keywords

positive affect; stress; intervention; feasibility; chronic illness; HIV

Introduction

A growing body of research and theory suggests that addressing chronic stress only in terms of the negative affect it evokes is too narrow and that positive affect may play a critical part in the maintenance of psychological and physical well-being (Folkman & Moskowitz, 2000). Positive affect is uniquely associated with lower risk of morbidity and mortality in healthy and chronically ill samples, independent of the effects of negative affect (Chida & Steptoe, 2008; Moskowitz, 2003; Moskowitz, Epel, & Acree, 2008; Pressman & Cohen, 2005), and research is beginning to provide evidence for possible physiological and behavioral mechanisms linking positive affect to reduced morbidity and mortality. For example, positive affect is associated with lower systolic and diastolic blood pressure (Ostir, Berges, Markides, & Ottenbacher, 2006) and more adaptive immune responses in both laboratory and naturalistic studies (e.g., Stone, Cox, Valdimarsdottir, & Jandorf, 1987). Behavioral factors including healthy diet, exercise, and adherence to medication are likely mediators of the association between positive affect and better health outcomes (Carrico, Johnson, Colfax, & Moskowitz, 2007; Connell, 1990). In addition, positive affect may also facilitate attention to and processing of health-relevant information, which is a crucial step in the process of health promoting behaviors (Reed & Aspinwall, 1998).

Researchers and health care providers are beginning to address positive affect and other related constructs such as optimism in research and clinical practice (e.g., Lee, Cohen, Edgar, Laizner, & Gagnon, 2006), but there are few empirically-supported programs that explicitly focus on skills for producing positive affect. In this paper we present the development of an intervention designed to increase positive affect in people living with significant life stressors, including data from an initial feasibility pilot test of the intervention in people newly diagnosed with HIV.

Intervention Development

Theoretical Foundation

The intervention presented here is based on revised Stress and Coping Theory (Folkman, 1997, 2008) and the Broaden-and-Build theory of positive emotion (Fredrickson, 1998). Folkman (1997) proposed a revision to Stress and Coping Theory that explicitly posits a role for positive affect in the coping process. According to the original theory (Lazarus & Folkman, 1984), the coping process begins when an event is appraised as threatening, harmful, or challenging. These appraisals are associated with affect and prompt initial coping response. If the event is resolved favorably, a positive affective state is the result. If the situation is not resolved, or is resolved unfavorably, negative affect is the result. Chronic stress can be conceptualized as continued lack of resolution or unfavorable resolution that results in continued negative affect. The revised model suggests that the negative affect associated with chronic unfavorable resolution motivates coping processes that draw on important goals and values, including positive reappraisal and goal-directed problem-focused coping (Folkman, 1997). These coping processes result in positive affect, which serves important coping functions: Positive affect provides a psychological “time-out” from the distress associated with chronic stress and it helps motivate and sustain ongoing efforts to cope with the negative effects of the chronic stress.

Although not specific to stress, in the “Broaden-and-Build” model (Fredrickson, 1998) the “broadening” function of positive affect enables the individual to see beyond the immediate stressor and possibly come up with creative alternative solutions to problems. The “building” function helps to rebuild resources (such as self-esteem and social support) depleted by enduring stressful conditions. In contrast to the narrowing of attention and specific actions tendencies associated with negative affect, positive affect broadens the individual’s attentional focus (Fredrickson & Branigan, 2005; Rowe, Hirsh, & Anderson, 2007; Wadlinger & Isaacowitz, 2006) and behavioral repertoire (Cunningham, 1988; Fredrickson & Branigan, 2005). Repeated experiences of positive affect build social, intellectual, and physical resources (Fredrickson, Tugade, Waugh, & Larkin, 2003; Gable, Gonzaga, & Strachman, 2006; Gable, Reis, Impett, & Asher, 2004; Waugh & Fredrickson, 2006).

Intervention Content

We conducted an extensive search of the positive affect intervention literature and we selected skills that had strong empirical evidence and could be taught in one-on-one sessions. In the design of the present intervention we adopted a multi-skill approach, believing that different individuals will respond to and adopt skills that they are interested in, attracted to, and willing to spend time practicing (Schueller, 2010). A recent meta-analysis by Sin and Lyubomirsky (2009) provides support for this decision, finding that multiple component interventions are more effective than those that focus on a single skill. We selected the 8 skills based on evidence from previous multiple-component programs (e.g., Fava, Rafanelli, Cazzaro, Conti, & Grandi, 1998; Fava & Ruini, 2003; Fordyce, 1981, 1983; Seligman, Rashid, & Parks, 2006) as well as studies of single skills (e.g., Emmons, 2007; Langston, 1994; Lyubomirsky, Sheldon, & Schkade, 2005), and our own program of observational research (e.g., Folkman, Moskowitz, Ozer, & Park, 1997; Moskowitz, Folkman, Collette, & Vittinghoff, 1996). The skills are grouped into 5 weekly sessions. A detailed outline of the intervention content is in the Appendix. See Figure 1 for a summary diagram of the intervention showing the program, intervention, technique, and sub-technique levels of description (Marks, 2009; 2010).

Week 1—In the first session, three of the eight skills are presented: noticing positive events, capitalizing, and gratitude. We selected these three for the first session because they are the simplest and easiest to understand and they do not require challenging new behaviors. Our decision to include noticing positive events (Skill 1) was based on our prior research with people caring for a partner with AIDS, which indicated that people experience positive events even in the midst of severe stress, and noting these events may help them cope with the stress (Folkman, Moskowitz, Ozer, & Park, 1997). Under chronic stressful conditions, people may seek out positive events that can increase their positive affect (Folkman, Moskowitz, Ozer, & Park, 1997).

When someone experiences a positive event, capitalizing on the positive event (Skill 2) can strengthen the association between the event and positive affect (Langston, 1994). Examples of capitalizing include marking the occurrence of the positive event in some way, thinking about the event again after it has occurred, and telling others about the event (Langston, 1994).

Gratitude (Skill 3) builds on capitalizing in that one goes beyond enjoying a positive experience by also enjoying the fact that the experience was possible. Noticing and self-generating feelings of gratitude have demonstrable effects on health and well-being (Emmons, 2007). There is evidence that keeping a regular journal of things you are grateful for is associated with higher levels of positive affect (Emmons & McCullough, 2003).

Week 2—In the second session we teach participants about mindfulness (Skill 4). Mindfulness is defined as is “the awareness that emerges through paying attention on purpose, in the present moment, and nonjudgmentally” (Kabat-Zinn, 2003, p. 145). Mindfulness is thought to allow people to tolerate and reflect on strong emotions rather than responding impulsively (Brown, Ryan, & Creswell, 2007). Mindfulness can effectively be taught, and brief, secular mindfulness meditation training has been found to increase positive affect, both in self-reports (Grossman, Tiefenthaler-Gilmer, Raysz, & Kesper, 2007; Shapiro, Brown, & Biegel, 2007) and in measures of cortical activation (Davidson et al., 2003). It was our belief that by teaching both formal mindfulness (meditation) and informal mindfulness (mindfulness of the events of daily life) early in the intervention, participants could utilize this skill to better retain and practice the other skills. For the formal mindfulness instruction, participants followed a 10-minute guided breath awareness CD.

Week 3—Positive reappraisal (Skill 5) involves changing one’s interpretation of a stressful event. This can include minimizing the impact or importance of a negative event or finding something good that has come of it. This is one of the few ways of coping that is consistently empirically associated with increased positive affect (Carver & Scheier, 1994; Folkman, 1997; Sears, Stanton, & Danoff-Burg, 2003). In a study of coping with caregiving and bereavement, positive reappraisal was significantly associated with positive affect both during caregiving and after the death of the partner (Moskowitz, Folkman, Collette, & Vittinghoff, 1996). Reappraisal is a cognitive technique and it has been taught in several therapeutic interventions for people with serious physical illness (e.g., Antoni, Carver, & Lechner, 2008; M. Chesney, Chambers, Taylor, Johnson, & Folkman, 2003; Chesney, Folkman, & Chambers, 1996; Bova, Burwick, & Quinones, 2008).

Week 4—During the fourth session we have participants focus on their personal strengths (Skill 6) and learn about and create attainable goals (Skill 7). Individuals can improve their emotional responses by focusing on their own abilities and strengths. Reed and Aspinwall (1998) found that women who were given the opportunity to affirm a positive aspect of themselves were more receptive to information about a serious disease risk, and retained more of the information over the following week. Self-affirmation is also associated with

better psychological adjustment to physical illness (Taylor et al., 1992; Taylor & Lobel, 1989) and healthier biological profiles (Taylor, Lerner, Sage, & McDowell, 2003).

Goal setting (i.e., creating valued and attainable goals) is commonly used in behavioral health interventions (Strecher et al., 1995) and has been included in programs for people with serious physical illness such as HIV (e.g., Antoni, Ironson, & Schneiderman, 2007; Sikkema, Kalichman, Kelly, & Koob, 1995). Higher levels of positive affect and greater life satisfaction are found among people who perceive that they are making progress toward their goals (Brunstein, Schultheiss, & Grassmann, 1998; Carver & Scheier, 1990; Lent et al., 2005), and pursuing attainable goals (goals that are short-term and specific vs. distant and global) is associated with higher subjective well-being (Emmons, 1986, 1992).

Week 5—In the final session, participants learn about acts of kindness. In large, representative samples, altruistic behaviors such as volunteerism are associated with lower risk of serious physical illness (Moen, Dempster-McCain, & Williams, 1993) and lower risk of mortality (Musick & Wilson, 2003; Oman, Thoresen, & McMahan, 1999). Altruistic behavior may lead to positive affect because it provides a sense of self-efficacy, increases self-esteem, or provides a distraction from one's own problems (Penner, Dovidio, Piliavin, & Schroeder, 2005). Lyubormirsky et al. (2005) report preliminary data that engaging in five acts of kindness per week for six weeks increased positive affect in students, especially if they engaged in a five activities on a single day each week (rather than one per day).

Intervention Format

The eight skills included in this intervention are taught during five weekly sessions, one-on-one with a facilitator. Each session, which lasts approximately 45 to 60 minutes, begins with a brief “check-in” conversation period to allow for facilitator-participant rapport-building. For Sessions 2 through 5, the check-in is followed by a review of the previous week's home practice, including a discussion of successes or difficulties. The sessions then have a didactic portion in which the facilitator introduces the positive affect skill(s) for that session, followed by an interactive practice of the skill(s), and finally, discussion of the home practice for the following week. (For a detailed outline of the intervention session content, see the Appendix.) Each week participants are given a set of home practice activities and a workbook in which to record their daily home practice.

Intervention Pilot Test

Method

Following the development of the intervention, we pilot tested it in people experiencing a serious health-related event: diagnosis with HIV. People newly diagnosed with HIV face significant challenges, including the need to interact with a complex health care system; constraints on sexual behavior; the need for disclosure of serostatus to friends, family, and sexual partners; stigma; and, in many cases, a struggle to come to terms with a new identity as someone with HIV (Hult, Maurer, & Moskowitz, 2009; Moskowitz, Wrubel, Hult, Maurer, & Stephens, 2007). The period immediately following HIV+ serostatus notification is characterized by increases in depression and anxiety (Ironson, LaPerriere, Antoni, & O'Hearn, 1990; Jacobsen, Perry, & Hirsch, 1990; LaPerriere, Antoni, Schneiderman, & Ironson, 1990; Ostrow, Joseph, Kessler, & Soucy, 1989; Perry, Fishman, Jacobsberg, & Frances, 1992; Rundell, Paolucci, Beatty, & Boswell, 1988). Although interventions designed to reduce depression in people living with HIV have met with some moderate success (Antoni, Ironson, & Schneiderman, 2007; Chesney, Chambers, Taylor, Johnson, & Folkman, 2003; Himelhoch, Medoff, & Oyeniya, 2007; Bova, Burwick, & Quinones, 2008),

none has targeted those who were newly diagnosed with HIV and none has explicitly targeted positive affect.

Participants—To be included in the study participants had to (a) have been informed for the first time that they were HIV positive within the previous 4 months (actual range 1 to 14); (b) speak English; (c) be 18 years or older; (d) have the ability to provide informed consent. Evidence of severe cognitive impairment or active psychosis, as assessed by trained interviewers, resulted in exclusion from the study. HIV status and date of diagnosis were verified with the referring clinic or provider.

Eleven of 12 eligible people who were screened chose to enroll in the study. Participants had been diagnosed with HIV an average 8.5 weeks prior to screening (range three to 15 weeks). Nine were men, two were women. Average age was 38. All but one had completed high school and two of the 11 had less than \$20,000 per year total household income.

Procedures—Participants were recruited through HIV clinics and community sites throughout the San Francisco Bay Area. This study was conducted as a substudy within a larger, ongoing, observational study of stress and coping in people newly diagnosed with HIV. Participants for this pilot were recruited through fliers and direct contact with study staff at local HIV testing sites and clinics between October and December, 2007. Potential participants contacted the study via the study phone line, completed a phone screen, and, if eligible and interested, were then scheduled for the first intervention session. Intervention sessions were completed at either the clinic where the participant was recruited or at the UCSF clinical research center. Signed consent was obtained at the start of the first intervention session. Participants were paid \$30 for each completed session, for a total of \$180 if all sessions plus the follow-up assessment were completed. All procedures were approved by the UCSF Committee on Human Research.

Assessments—Positive and negative affect were assessed at week 1, and at an in-person session one week after the completion of the intervention (Follow-up 1) and by phone four weeks after that (Follow-up 2) using a version of the Differential Emotions Scale (DES) modified by Fredrickson et al. (2003) to include additional positive affect words. Reliabilities for both positive and negative affect were acceptable ($\alpha = .89$ for positive and $\alpha = .78$ for negative.) The modified DES has shown acceptable validity in terms of agreement with other affect measures and change in response to intervention (Fredrickson, Cohn, Coffey, Pek, & Finkel, 2008). Self-report mindfulness was assessed at the start of the first intervention session, and at the follow-up sessions with items from the Five Factor Mindfulness Scale (FFMQ; Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006). Reliability of the scale was $\alpha = .86$.

Although this pilot study did not include a control group, a recent observational study in our lab (Moskowitz, 2008) administered the same affective outcome measures to individuals from the same population starting shortly after HIV diagnosis and continuing on a similar follow-up schedule. We include their data as a no-treatment historical comparison group, representing the affective trajectory our participants would likely have followed without any intervention.

Study Evaluation—We tracked how many days of home practice participants completed each week by counting entries in their daily diary. At the first follow-up assessment we asked participants to indicate how often they were likely to continue to practice each of the skills. We also asked participants to rank the skills in terms of how much they liked them. Finally, we asked participants two questions regarding the intervention as a whole. We asked them: “How likely are you to recommend this program to a friend?” and “How likely

are you to recommend this program to someone who has just tested positive for HIV?” At the second follow-up assessments, participants were asked to report how often they were still practicing each of the skills.

Results—Data were collected between October, 2007 and March, 2008. Eleven participants were recruited into the intervention and nine completed the entire 10 weeks of the study (81.8% retention). One participant chose to discontinue the study after the first session and we lost contact with a second participant after after Session 5 (and thus completed the intervention but did not complete either of the follow-up assessments). Adherence to the home practice was high. Across weeks and homework tasks, the average number of days per week that the participants reported completing homework was 5.4, with a range from 4.1 days per week for the mindful breath awareness practice to 6.6 days per week for personal strengths.

At the immediate post intervention assessment we asked participants to rank the skills in order of their personal preference. Each of the skills had at least one participant who ranked it as his or her favorite skill. This supports our rationale for including a variety of positive affect skills in the intervention to increase the likelihood of a good person-skill match as recommended by Lyubormirsky and colleagues (2005). The average response for recommending to a friend was 8.6 out of 10 and the average for recommending the intervention to someone just testing positive with HIV was 9.5 (7 of 9 participants said 10).

At the 4-week follow-up, participants reported how frequently they had been practicing each of the skills during the previous month. Six of the nine participants reported practicing at least one of the skills daily. The most frequently practiced skill was noting positive events, averaging 2–3 times per week. The least frequently practiced skill was informal mindfulness, at just under once per week.

Changes in positive affect, negative affect, and mindfulness: Despite the small sample size ($n = 9$ with complete post intervention data), there were statistically significant changes, by paired t -tests, in positive affect and negative affect from pre-intervention to the first follow-up (Table I). The mean increase in total positive affect was 3.9 points ($p = .016$). In our comparison dataset, the mean increase over the same period was only 1.2 points on the positive affect scale (DES-positive). Intervention participants' DES-negative scores decreased by 5.1 points ($p = .016$), compared to a decrease of only 0.35 for the no-treatment comparison dataset. The overall effect sizes for the changes from pre-intervention to second follow-up were very large (Cohen's $d = 1.14$ and 1.98 , for positive and negative affect, respectively.) Neither DES-positive nor DES-negative changed significantly from the first to the second (30 day) follow-up assessments.

There were changes in the overall mindfulness score over the course of the pilot study but they were not significant. In terms of the mindfulness subscales, nonreactivity increased significantly at the immediate post-intervention assessment, but nonjudgment dropped significantly at the second follow up session.

Qualitative evaluation questions: At the 30 day post-intervention assessment, we asked participants to describe whether the intervention had an effect on them and, if so, what that effect was. Two participants offered feedback regarding difficulties they had actually using the skills:

“Well, I'm sure it would have had more, had I done the exercises more than I did. Because I didn't really do the exercises I don't know if the study had much of an impact on me, honestly. Only because I haven't followed through and done what I should do.”

More generally, however, the responses were positive:

“It’s like collecting pennies under your sofa. But then the whole jar fills up and you realize you have a lot more than you thought. This is the same thing. There are many more positive things in my life than I realized.”

“It’s good for people dealing with HIV because there is a lot of shame and doubt. It’s a time in your life when you can potentially really cut yourself down so [the intervention] was a really important exercise. It helps you discover yourself -- not to be so self absorbed and drowning in the depression. It draws you out of your slump. Makes you look at yourself from a different angle and validates who you are and the importance of what you are and what you are doing in the world. The HIV, that’s in my life, but these positive things are also in my life as well.”

Discussion

This feasibility or proof-of-concept study demonstrated that a multiple-component positive affect intervention is feasible for people newly diagnosed with a life-changing physical illness. Retention rates were high and compliance with home practice was good. The feedback from participants was also very positive, with most participants indicating that they would continue with some of the skills they learned and that they would recommend the intervention for other people newly diagnosed with HIV. We succeeded in conveying the value of positive emotion skills in a way that people dealing with serious negative events were able not just to understand, but to embrace.

Over the 6 weeks of the study, there were significant changes in positive and negative affect. The effect sizes obtained in this pilot study were comparable to the effects reported in a recent meta-analysis of interventions targeting positive affect (Sin & Lyubomirsky, 2009).

Mindfulness increased slightly (but not significantly) from baseline to the post-intervention assessment. The nonreactivity subscale, however, did increase significantly from pre- to post-intervention. On the other hand, there was a significant *decrease* in the nonjudgment subscale 30 days after the intervention, the opposite of what we expected. Mindfulness has been used in many other successful intervention trials, most commonly in the form of Mindfulness-Based Stress Reduction (MBSR; Kabat-Zinn, 1990), a secular meditation training course. However, MBSR involves approximately 26 hours of class time over the course of 8 weeks, whereas our intervention includes only one hour of in-class training and daily practice of 10 minutes per day of formal mindfulness. It may be that our intervention did not include sufficient mindfulness training to impact overall mindfulness directly, however the increase in nonreactivity was maintained at 30 days post intervention. The decrease in nonjudgment did not appear to be an immediate product of the intervention because nonjudgment remained stable from pre- to post-intervention; however the decrease in nonjudgment found between the first and second follow up assessments may be due to participants discontinuing the use of some of the intervention skills after the program was over. Booster sessions or an additional mindfulness session focused explicitly on being with thoughts and feelings as they arise, without judgment, may serve to ameliorate this effect. A recent meta-analysis showed no relation between the length of class time and effect sizes in published trials of MBSR (Carmody & Baer, 2009), so it is unknown how much of a mindfulness “dose” is sufficient.

Although the present pilot work was conducted in people newly diagnosed with HIV, we hypothesize that the intervention will be effective for people coping with any type of serious stress. Furthermore, the intervention does not consist of a package of skills that must be practiced together to maximize the beneficial effects. Instead we believe that the key is to

have an array of skills so that any given individual can find something that will work for him or her (Schurller, 2010). Along these lines, there are a number of skills that could potentially have been included that were not, such as spirituality/religiosity/prayer (Bormann, Aschbacher, Wetherell, Roesch, & Redwine, 2009; Hollywell & Walker, 2009; McCain et al., 2008; Miller, Forcehimes, O'Leary, & LaNoue, 2008), meaning-making (Bower, Kemeny, Taylor, & Fahey, 2003; Lee, Cohen, Edgar, Laizner, & Gagnon, 2006), forgiveness (Freedman & Enright, 1996; Lundahl, Taylor, Stevenson, & Roberts, 2008; Waltman et al., 2009), and positive writing (Burton & King, 2004; Low, Stanton, & Danoff-Burg, 2006). These are all legitimate foci for future studies.

Given the formative nature of this study, the results raise a number of questions. First, although we hypothesize that the intervention will increase positive emotion for anyone who practices the skills, future work should examine more specifically which components of the intervention are most effective and for whom. Second, a more fine-grained analysis of which types of positive affect are susceptible to change would inform theories on emotion and stress and coping. And, finally, future studies should explore the extent to which the intervention can be translated into group, or even self-administered, formats, to ease dissemination and improve the cost-effectiveness of delivery.

The risk of proclaiming the importance of positive affect in the stress and coping process is that it may appear to minimize the pain and serious individual and societal consequences associated with major stressful events. As we tell our participants, we are not advocating a simplistic “don't worry, be happy” approach nor do we believe that simply increasing positive affect will prove to be a cure-all for their problems. Such a “Pollyanna-ish” stance would not be acceptable to them, and would not help them cope with the very real and complex issues they face following their diagnosis. It could also degenerate into blaming those who develop depression or other negative consequence of enduring stress for not working hard enough and thinking the right positive thoughts. We do believe that an intervention to increase positive affect in the months after diagnosis may set the stage for a number of adaptive consequences, which can result in improved mental and physical health for many people.

Our focus on positive affect is consistent with a strengths-based, client centered approach (Corcoran, 2005), will likely make the proposed intervention more attractive to providers and participants alike, and serve as an antidote to “prevention fatigue”, which is increasingly pervasive in communities at high risk for HIV (Chen, Weide, & McFarland, 2003; Ostrow et al., 2002; Stockman et al., 2004).. Our experience in pilot testing the intervention is that, along with the participants, the facilitators, staff, and investigators also experienced increases in positive affect. Ultimately, given the high levels of stress, distress, and depression documented in people living with serious physical illness, we consider increasing positive affect to be an inherently worthwhile intervention goal.

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Appendix. Detailed Outline of Intervention Content and Procedures

Week 1: Positive Events and Capitalizing & Gratitude

1. Check-in:

Introductions and discuss study policies including a review of confidentiality, cancellations and absences, drug use and home practice. Build initial rapport with participant.
2. Skills Sharing and Instruction:
 - a. Noticing Positive Events: It's important to recognize and acknowledge positive events that happen each day. Even small events can have a positive impact on mood and the ability to handle stress.

Examples of small positive events to notice include: getting a phone call from a friend, watching a funny movie, enjoying a good cup of coffee.
 - b. Amplifying/Capitalizing: After identifying a positive event, it is possible to expand on it by thinking back on it, reliving it, continuing to focus on it. Amplifying positive events is associated with feeling more positive emotion and may improve coping.

Examples of the ways that people can amplify positive events include: stopping to think about it and savor it, writing about it, talking about it with a friend, posting about it on face book.
3. Skill Practice: Positive Event and Amplifying/Capitalizing with participant
 - a. Noticing a Positive Event

Identify a positive event that happened in the past week. Discuss the event, the emotions felt at time and what their current reaction is to discussing the event.

Repeat, going over 1–3 different events.
 - b. Amplifying/Capitalizing

Walk through previous examples. Explore what was done in response to events, explore amplification of events.
4. Skills Sharing and Instruction: Gratitude

Gratitude is a feeling of thankfulness and appreciation for something. It's also a way of thinking that can help you notice things you can be thankful for and appreciate them even more because of it. Gratitude is another way to savor a positive event. It's important to think about things that you're genuinely grateful for and not things that you think you should be grateful for.

Examples of things to be grateful for include: having friends and family, a pet, a sunny day, chocolate.

5. Skills Practice: Gratitude

Thinking over the past week, identify something in your life that you are grateful for.

Repeat, try to generate a small list.

6. Home Practice:

- a. Positive Event: Every evening, write down one or more positive things that happened that day. For each event, note feelings, thoughts and physical sensations that you felt at the time. What did you do in response to the event? Did you amplify it?
- b. Gratitude Journal: Think about at least one thing you are grateful for each day. It doesn't have to be new each day and can be very small. Reflect on things in your life that you have to be grateful for.
- c. Emotion Checklist: At the end of each day, complete the emotion checklist form that asks how much of each emotion you felt that day.

Week 2: Mindfulness

1. Check in

Discuss Positive Events, Amplification, Gratitude and Emotion Checklist home practice.

2. Skill Sharing & Instruction: Mindfulness: Formal and Informal

Mindfulness is a particular way of paying attention: on purpose, in the present moment, with a non-judgmental and accepting attitude. Mindfulness can help increase positive emotions because it can make bad things seem less overwhelming; it helps you notice little things that you might have overlooked and it allows you to put more energy into dealing with things rather than worrying about them.

Two kinds of mindfulness practice include “formal” and “informal” practice.

Informal Mindfulness involves being present with the activities of daily life. It means slowing down and focusing on the details of the moment rather than rushing through it. It is the opposite of zoning out or going on “autopilot”.

An example of practicing informal mindfulness would be paying attention when you are walking (at work, at home, to and from your car, walking to the bus, etc.). Be with your posture, the feel of your legs as they move, the feel of your feet as they contact the ground, the sensations of your breathing, the sights and sounds around you. You might notice something beautiful (a sunset, a tree) that you would have otherwise missed.

Formal Mindfulness: Focusing on the breath. One formal practice of mindfulness meditation is paying attention to our breathing. This involves bringing mindful awareness to our breathing. Focusing on the breath can help us to be more fully present and aware, it is a workout for our minds like going to the gym is a workout for our muscles. It can help us bring more mindfulness to our daily activities and can be a helpful way to deal with unpleasant or stressful experiences.

3. Skill Practice

Informal Mindfulness. Think about a positive event you had last week. By paying attention to positive events you already have practice in being present. Now think about the opposite, being on autopilot. Describe a time in the past week when you were on autopilot or rushing through an activity of daily life. What happened? How did this experience differ from the experience of the positive event?

Formal Mindfulness. Play CD of breath awareness practice. While focusing on the breath, practice noticing your thoughts and acknowledging that they are there. Don't try to force them away. Just notice your mind has wandered and refocus on the breath.

4. Home Practice

- a. Being present in daily life: Each day, think of an activity of daily life that you typically do on autopilot. Focus on doing that task more mindfully. You can select a task on your own or from the list.
- b. Breath awareness activity: Spend 10 minutes listening to the recording of a guided breath awareness activity each day. Practice noticing your thoughts and feelings without reacting right away.
- c. Continue doing daily gratitude and emotions checklist.

Week 3: Positive Reappraisal

1. Check in

Discuss Formal and Informal Mindful home practice and daily Gratitude and Emotion Checklist.

2. Skill Sharing & Instruction: Positive Reappraisal

A person's interpretation of a situation or event determines whether the event is experienced as stressful. Since our appraisals determine how we react emotionally, if we can change our appraisals (that is, how we perceive, view or interpret an event), we can change how we feel. It is even possible sometimes to find something in a bad experience that is actually good. This is sometimes referred to as "seeing the glass as half full rather than half empty" or "finding the silver lining."

Finding the silver lining doesn't mean that you're glad the bad thing happened, it means you managed to do something good with the hand you were dealt.

Reappraisal is about acknowledging that we can control how we think about a situation.

An example of two different appraisals of the same situation is a bus arriving late, being full and driving past 2 people at a bus stop. One person may interpret the situation as horrible, the bus driver refused to stop for her and she has to waste an hour waiting for another. The other person may think that the bus must have been very full for the driver not to even stop. Seeing it as no one's fault, she is less upset. The silver lining may be that the woman had time to call a friend she'd been meaning to catch up with and use the time she had productively.

3. Skill Practice

Practice reappraisal by thinking back over the past week to a time when you felt stressed. Talk about what happened and how you felt when it happened. What did you feel? What made you feel that way? What did you do in response to the event?

Work with facilitator to reappraise the event. List some ways that maybe it wasn't as bad as it could have been. Did any good things come from it?

Remember to start small. Positive reappraisal is a skill to be developed and you should start with small events.

4. Home Practice
 - a. Positive Reappraisal: Each day think of one negative or stressful thing that happened to you. Then practice positive reappraisal of that event. Practice noting your thoughts and feelings without reacting right away. Record these thoughts on your home practice sheet.
 - b. Being present in daily life: Continue the informal practice from last week. Remember you can use any event in your daily life, something from the list or something else.
 - c. Breath awareness activity: Continue using the 10 minute breath awareness CD each day.
 - d. Continue doing daily gratitude and emotions checklist.

Week 4: Personal Strengths & Attainable Goals

1. Check in

Discuss Positive Reappraisal home practice as well as the Mindfulness, Gratitude and Emotion Checklist home practice.
2. Skill Sharing & Instruction: Personal Strengths

Everyone has a unique set of strengths, talents, skills and positive qualities. Recognizing your own strengths can help you better cope with stressful things in your life.

Examples of personal strengths include having a great sense of humor, being punctual, creative, or responsible.
3. Skill Practice

Make a list of your strengths, talents, skills and positive characteristics. Look at the list of adjectives and see which relate to you. What are the strengths that have gotten you through hard times?

For each of the strengths you've listed, talk through a time that the person demonstrated or used that strength.

For example, a person who is responsible would show this by showing up for an appointment on time. A compassionate person may offer their seat on the bus to a pregnant woman.
4. Skill Sharing & Instruction: Attainable Goals

Personal strengths not only help you cope with stress, they also help you achieve your goals. People often experience positive emotions when they achieve a goal. Attainable goals are short-term, modest goals and are the ones that are likely to help us experience positive emotion on a daily basis.

Attainable goals have four characteristics:

 - a. Realistic: can be completed within a reasonable time frame

- b. Clear: easily identified steps to complete it
- c. Not too easy: should be somewhat challenging
- d. Clear end point: to know when it has been successfully achieved.

An example of attainable goals may be to take a walk twice this week (rather than go to the gym every day for a month) or clean your closet this week (rather than clean the house and make it more appealing).

5. Home Practice:
 - a. Personal Strengths: Each day, list one of your strengths or positive characteristics and how you used it that day. It may be related to your attainable goal.
 - b. Attainable Goals: Brainstorm one or more attainable goals for the next week. Make sure they are realistic, clear, not too easy, and have a clear end point.
 - c. Breath awareness activity: Continue using the 10 minute breath awareness CD each day.
 - d. Continue doing daily gratitude and emotions checklist.

Week 5: Acts of Kindness

1. Check in

Discuss Personal Strengths and Attainable Goal home practice as well as the Mindfulness, Gratitude and Emotion Checklist home practice.

2. Skill Sharing & Instruction: Acts of Kindness

Doing kind things for others is associated with better physical health. Being nice to others can help you feel better by taking the focus off your own problems, give you a sense of control, and give you a sense of accomplishment. The idea is that doing small kindnesses for someone, or “paying it forward”, will increase your positive emotion.

Examples of small acts of kindness include giving your seat on the bus to someone who might need it, taking a friend out for coffee, smiling at a stranger and holding the door open for them, or cooking dinner for a friend.

3. Skill Practice

Can you remember a time when someone was kind to you? What did they do? Was it someone you knew or a stranger? How did they respond? How did you feel? What made you feel that way?

Think of a time that you did something nice for someone else. What did you do? Was it for someone you know or a stranger? How did the person respond? How did you feel? What about it made you feel that way?

4. Home Practice

- a. Acts of Kindness: Look at the list of altruistic acts and pull out some examples. Generate some ideas of small acts of kindness that you could do in the coming week.
- b. Breath awareness activity: Continue using the 10 minute breath awareness CD each day.

- c. Continue doing daily gratitude and emotions checklist.

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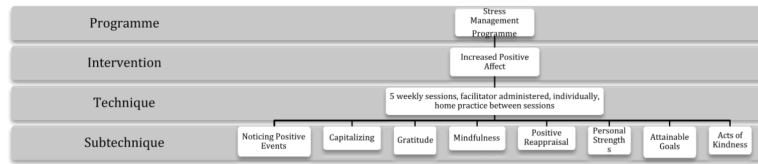


Figure 1.
Summary diagram of the intervention

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Table 1

DES: Differential Emotions Scale. Mean scores on positive affect, negative affect, and mindfulness at pre-intervention and follow-up ($N = 9$); standard deviations of change scores in parentheses.

	Pre-intervention Mean	Follow-up 1 1 week post intervention Mean (SD)	Follow-up 2 5 weeks post intervention Mean (SD)
DES-positive (mean per item, 9 items total)	1.95	2.38 ** (0.43)	2.53 (0.51)
DES-negative (mean per item, 7 items total)	1.68	0.95 ** (0.72)	0.78 (0.59)
Mindfulness (total)	60.1	65.4 (8.93)	50.1(16.73)
Mindfulness (attention/awareness)	24.4	24.4 (4.33)	19.8 (8.73)
Mindfulness (nonjudgment)	21.6	21.7 (5.01)	10.7 * (9.93)
Mindfulness (nonreactivity)	14.1	19.3 * (4.74)	19.7 ** (4.07)

* $p < .05$,

** $p < .01$ compared to pre-intervention based on paired t-test;