

Positive Activity Interventions For Mental Health Conditions

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POSITIVE ACTIVITY INTERVENTIONS FOR MENTAL HEALTH CONDITIONS

Need for Novel Approaches

In the 21st century, mental health has come to be increasingly understood as both the absence of mental illness and the presence of positive psychological resources. Accordingly, we expect positive psychological science to play a critical role in treating mental disorders—particularly, mood disorders. Depression is on the rise, affecting over 150 million people worldwide in 2003 and over 350 million people worldwide in 2012 (Marcus, Yasamy, van Ommeren, Chisholm, & Saxena, 2012; WHO, 2003, 2012). The World Mental Health Survey conducted in 17 countries found that on average about 1 in 20 people reported having an episode of depression in the previous year (Marcus et al., 2012). In the United States, 9.5% of the adult population suffers from a mood disorder, and 45% of these cases are classified as “severe” (Kessler, Chiu, Demler, & Walters, 2005).

The high prevalence and incidence of mood disorders does not mean that they do not cause a great deal of suffering. Depressive disorders often emerge at a young age, substantially reduce people’s daily functioning, and are often chronic or recurrent. For these reasons, they are the leading cause of disability worldwide for both males and females in terms of total years lost due to disability (Marcus et al., 2012). Almost 1 million lives are lost yearly due to suicide, which is equivalent to 3,000 suicide deaths per day. Moreover, for every person who completes a suicide, another 20 attempt it (Marcus et al., 2012; SAMHSA, 2012).

Although there are established effective treatments for depression, such as psychotherapy and pharmacotherapy, fewer than half of individuals with depression in the world, fewer than one-third in most regions, and fewer than 1 in 10 in some countries receive treatment (Marcus et al., 2012; WHO, 2003, 2012). This means that in most regions of the world, two-thirds of

reported cases of depression go untreated. Even in developed nations, many people who are depressed are not correctly diagnosed. Barriers to effective care include a lack of financial resources, the lack of trained providers, and the stigma associated with mental disorders (Marcus et al., 2012; SAMHSA, 2012; WHO, 2012).

Not being able to afford treatment is the number one reason for not receiving needed mental health care (SAMHSA, 2012). Therapeutic interventions are costly, ranging from \$200 for three psychotherapy sessions to upwards of \$1,200 for the American Psychological Association's recommended course of treatment of at least 10 psychotherapy sessions combined with antidepressant medication for optimal care of moderate to severe depression (Watkins et al., 2009). In addition, individuals at high risk of depression—such as those with low economic resources or young adults ages 19 to 34—may be most likely to lack health insurance and least able to afford treatment (SAMHSA, 2012; Smith & Medalia, 2014; Wang, Schmitz, & Dewa, 2010).

Furthermore, studies have shown that treatment with antidepressants has limited efficacy. Response rates for a single antidepressant have been found to be around 60 to 70%, with over 80% of the effects accounted for by placebo effects (Kirsch, Moore, Scoboria, & Nicholls, 2002). Among all but “very severely” depressed patients, effect sizes for the difference between medication and placebo are small (i.e., less than .20) (Fournier et al., 2010; Khin, Chen, Yang, Yang, & Laughren, 2011). Furthermore, the onset of treatment action is typically 4 to 8 weeks (American Psychiatric Association, 2010), and about one-third of patients will not remit even after 2 to 4 different pharmacotherapy trials (Rush, 2007). Antidepressants can also be associated with adverse side effects, such as nausea, sexual dysfunction, and weight gain, which can result in premature discontinuation (American Psychiatric Association, 2010). Finally, persons treated

with antidepressants are more likely to relapse than those treated with cognitive and behavioral therapies, which appear to teach strategies that help patients avoid falling back into negative thought patterns and behaviors (Dobson et al., 2008; Evans et al., 1992; Fava et al., 2004).

Why Use Positive Activity Interventions to Alleviate Depression?

Cost-effective, quick-acting, efficacious, and long-lasting treatments are needed to augment traditional drug and psychotherapy treatments. In this chapter, we describe the potential of positive activity interventions (PAIs)—that is, simple, self-administered cognitive and behavioral strategies that can increase subjective well-being (i.e., happiness) by promoting positive feelings, positive thoughts, and positive behaviors. Such practices include (but are not limited to) writing letters of gratitude (Boehm, Lyubomirsky, & Sheldon, 2011; Layous, Lee, Choi, & Lyubomirsky, 2013; Lyubomirsky, Dickerhoof, Boehm, & Sheldon, 2011; Seligman, Steen, Park, & Peterson, 2005); counting one's blessings (Chancellor, Layous, & Lyubomirsky, 2014; Emmons & McCullough, 2003; Froh, Sefick, & Emmons, 2008; Lyubomirsky, Sheldon, & Schkade, 2005; Seligman et al., 2005); practicing optimism (Boehm et al., 2011; King, 2001; Layous, Nelson, & Lyubomirsky, 2013; Lyubomirsky et al., 2011; Sheldon & Lyubomirsky, 2006); performing acts of kindness (Dunn, Aknin, & Norton, 2008; Layous, Lee et al., 2013; Layous, Nelson, Oberle, Schonert-Reichl, & Lyubomirsky, 2012; Lyubomirsky, Sheldon et al., 2005; Nelson et al., in press; Sheldon, Boehm, & Lyubomirsky, 2012); using one's strengths in a new way (Seligman et al., 2005); affirming one's most important values (Nelson, Fuller, Choi, & Lyubomirsky, 2014); and meditating on positive feelings towards oneself and others (Fredrickson, Cohn, Coffey, Pek, & Finkel, 2008).

Traditional therapies have focused on alleviating negative moods and cognitions and have been less concerned with building positive emotions, thoughts, and behaviors (Seligman &

Csikszentmihalyi, 2000). However, negative affect and positive affect are independent constructs (Watson & Tellegen, 1985), and the absence of negative feelings is not equivalent to the presence of positive ones. We propose that PAIs could complement traditional drug and psychotherapy treatments by building strengths and working to address the paucity of positive affect, engagement, and life meaning that characterize depression. Historically, conventional treatments have focused on mitigating depressive symptoms, but most people want not only to not be depressed but also to flourish and feel happy.

Because PAIs can be self-administered, or administered in group or individual therapy, they can be highly cost-effective. Most PAIs require little more than self-reflection (gratefulness, optimism, savoring of experiences, goal setting) or the cultivation of current social relationships (Layous et al., 2011).

Some evidence also suggests that PAIs can work quickly and durably. Seligman and his colleagues' (2005) study of mildly depressed individuals showed a significant decrease in depressive symptoms after just one week or less of PAIs and those effects lasted at least 6 months. In contrast, placebo group participants experienced a short-term boost in well-being but returned to their baseline levels of depression after a week. In another study with severely depressed individuals, participants' depressive symptoms declined from severe to mild-to-moderate within just 15 days of practicing a PAI (Seligman, 2002).

A meta-analysis conducted in 2009 of 51 studies of PAIs with 4,266 individuals revealed that, overall, PAIs do indeed significantly enhance well-being (mean r [effect size] = .29) and reduce depressive symptoms (mean r = .31) over controls (Sin & Lyubomirsky, 2009). A more recent meta-analysis of 39 PAIs found similar though somewhat smaller effect sizes—namely, .34 for well-being and .23 for depression (Bolier et al., 2013). These effect sizes are small to

medium-sized, indicating that not only do PAIs work, but they work well in increasing well-being and decreasing depressive symptoms. To gain perspective on the practical significance of the magnitude of these effects, consider that a highly-cited meta-analysis of 375 psychotherapy studies (Smith & Glass, 1977) demonstrated that psychotherapy had an average effect size of $r = .32$ on various psychological outcomes, such as adjustment and self-esteem.

Finally, PAIs have not only been shown to reliably boost well-being but also to promote other positive outcomes by increasing positive emotions. The value of positive emotions goes beyond just “feeling good.” They precede, are associated with, and may even cause enduring positive outcomes in a variety of life domains, including greater marital satisfaction, enhanced social relationships, superior job performance, and higher creativity (Lyubomirsky, King, & Diener, 2005). As a case in point, the health benefits of positive emotions are especially relevant to those suffering from depression: Positive emotions speed recovery from the cardiovascular effects of negative emotions (Fredrickson & Levenson, 1998; Tugade & Fredrickson, 2004), buffer against relapses (Fava & Ruini, 2003), and build broad-minded coping skills (Fredrickson & Joiner, 2002). According to Fredrickson’s (2001) broaden-and-build theory, positive emotions broaden thinking, which leads to novel ideas and actions (i.e., the urge to play and explore) and to the building of long-lasting personal resources (e.g., durable social bonds and attachments). In contrast with the narrowing of attention (Gasper & Clore, 2002) and behavioral inhibition (Kasch, Rottenberg, Arnow, & Gotlib, 2002) characteristic of negative affective states, positive emotions trigger upward spirals towards greater emotional well-being (Fredrickson & Joiner, 2002).

Positive Activity Interventions For Nondepressed Individuals

Most research on PAIs has been conducted on nondepressed, nonclinical populations. As described above, there are many PAIs that can increase well-being, but those involving the practice of gratitude, kindness, and optimism are three of the most empirically supported by randomized controlled experiments.

Gratitude

Gratitude—the practice of attending to, savoring, and being thankful for one’s circumstances and close ones—can promote well-being by preventing one from taking things for granted, strengthening connections with others, and providing an effective coping strategy during difficult times. In an oft-cited study conducted by Emmons and McCullough (2003), participants were directed to “count their blessings” by listing five things for which they were grateful. Those who engaged in this activity weekly for 10 weeks felt better about their lives as a whole, were more optimistic about their expectations for the upcoming week, and reported fewer physical symptoms relative to neutral control groups. Additionally, counting blessings led to more positive moods, better sleep, and a greater sense of social connectedness in a sample of participants with neuromuscular disease.

Similarly, a 6-week study found that counting blessings increased well-being; however, it also demonstrated that frequency mattered, such that students who counted blessings once a week became happier compared to those who did so three times a week (Lyubomirsky, Sheldon et al., 2005). A recent study randomly assigned employees of an engineering firm to either recount three positive events at work or list completed work tasks (control) (Chancellor et al., 2014). Employees who reflected on positive work events not only reported greater happiness, but also physically moved more than did controls.

Grateful thinking has also been manipulated by prompting participants to write gratitude letters to mentors, friends, or family members. In a longitudinal study of Anglo and Asian Americans, all participants conveying gratitude demonstrated larger increases in life satisfaction relative to controls, with the greatest gains demonstrated by the Anglo Americans (Boehm et al., 2011). Similarly, a cross-cultural study found that compared to controls, U.S. participants benefitted more from writing gratitude letters than South Korean participants (Layous et al., 2013). These results suggest that Americans may place more effort and commitment into trying to become more grateful. For example, one study showed that relatively more motivated students reported relatively greater increases in well-being after writing gratitude letters (Lyubomirsky et al., 2011). Additionally, participants who put more effort into their gratitude letters (as rated by independent coders) showed greater increases in well-being.

Kindness

Kindness, or prosocial behavior, has also been found to correlate with and promote well-being. Otake and colleagues (2006) found that happy people not only desire to be kind, but they also are more attuned to kindness, and more likely to behave in kind ways. Furthermore, these authors showed that people could become happier simply by “counting kindness” for one week—that is, by keeping track of their own kind behavior towards others. Those recalling a greater number of kind behaviors obtained the largest increases in happiness. People who help others are likely to feel good about themselves and more confident in their abilities to enact change. Furthermore, their prosocial behavior likely helps build better relationships and trigger upward spirals of positive emotions and positive interpersonal exchanges (Lyubomirsky, King et al., 2005; Otake et al., 2006).

An intervention study conducted by Lyubomirsky, Sheldon, and Schkade (2005) asked students to perform (rather than recall) five acts of kindness per week over a period of 6 weeks. They found that well-being in the kindness group increased compared to the control group when the five acts were performed all in one day, but not when they were spread across the week. A cross-cultural study showed that both U.S. and South Korean students reported increases in well-being when performing three kind acts once a week over 6 weeks (Layous, Lee et al., 2013). Finally, children have been shown to benefit from performing kind acts as well. In a field experiment, fourth, fifth, and sixth graders (ages 9 to 11) who performed kind acts not only improved in well-being, but also increased in peer acceptance (Layous et al., 2012).

Optimism

Another way to reliably increase well-being is by practicing optimistic thinking—for example, by visualizing one’s “best possible selves” in the future. A pioneering study conducted by King (2001) instructed participants to “imagine everything has gone as well as it possibly could” once a day for 4 consecutive days and to write about it for 20 minutes. Individuals who engaged in this activity experienced a greater boost to their positive moods than those who wrote about a trauma or both trauma and their best possible selves. In addition, those who wrote about their best possible selves reported relatively less illness 5 months later. A more recent follow-up study impressively demonstrated that even 2 minutes of writing about “best possible selves” on 2 consecutive days could result in similar benefits (Burton & King, 2008).

These results were replicated in a 4-week study: Participants who imagined and wrote about their best possible selves witnessed both immediate and sustained boosts in positive affect compared to those performing a control exercise (Sheldon & Lyubomirsky, 2006). In follow-up studies, students who wrote about their best possible selves for 15 minutes a week over 8 weeks

(Lyubomirsky et al., 2011) and community-dwelling adults who wrote for 10 minutes a week over 6 weeks (Boehm et al., 2011) both increased in well-being compared to controls. Notably, the increases in well-being between experimental and control groups remained even 6 months and 1 month, respectively, after the interventions ended. Finally, a study asking students to write about their best possible selves once a week for 4 weeks found that participants who read a persuasive peer testimonial became happier than those who read neutral information or completed a control task, highlighting the beneficial role of social support (Layous, Nelson et al., 2013).

In summary, PAIs involving the practice of gratitude, kindness, and optimism have been shown to reliably increase well-being across many different settings in nonclinical samples.

Positive Activity Interventions For Depressed Individuals

A few studies have tested the efficacy of PAIs for clinically depressed individuals. For example, Seligman and colleagues (2005) found that mildly depressed individuals instructed to write and deliver a gratitude letter increased in happiness and decreased in depressive symptoms immediately afterwards and at a 1-month follow-up compared to controls. In the same study, participants who used their signature strengths in a new way or kept track of “three good things” in their lives increased in happiness and decreased in depressive symptoms for up to 6 months relative to controls. In a different experiment, severely depressed individuals instructed to write about three good things every day for 2 weeks witnessed significant improvements in their depression (from severe to mild-to-moderate) (Seligman, 2002).

Although few studies have investigated the effects of individual PAIs (e.g., only exercising kindness) in clinical populations, researchers have developed and tested several therapy programs that incorporate multiple PAIs (e.g., practicing kindness, savoring happy

moments, and thinking optimistically over the course of several weeks). Such programs include pioneering research on positive psychotherapy (PPT) and well-being therapy (WBT).

In a 6-week study of PPT, mildly-to-moderately depressed young adults were assigned to participate in group PPT or to a no-treatment control condition (Seligman, Rashid, & Parks, 2006). The PPT consisted of various positive exercises each week, including counting blessings, practicing active and constructive responding to one's partner, using one's strengths, writing a gratitude letter, and savoring everyday activities. During 2-hour weekly sessions, participants engaged in group discussions, received guidance on how to carry out the positive exercises, and were assigned homework. Group PPT was indeed efficacious for ameliorating depressive symptoms and increasing life satisfaction. The results for the lasting relief of depression were impressive—on average, PPT participants reported less depression up to a year later, whereas those in the control group remained mildly-to-moderately depressed.

To compare PPT to traditional treatments for depression, Seligman and colleagues (2006) then randomly assigned individuals with major depressive disorder to receive either 14 sessions of PPT, treatment as usual, or both treatment as usual and antidepressant medication (matched to PPT clients based on the severity of depression). PPT was administered using a manualized protocol with the aim of balancing the overwhelming negatives of depression with the establishment of congenial and empathetic rapport, coaching the client to remember the good in his or her life, identifying and using the client's strengths, and teaching positive social behaviors. Results showed that PPT produced greater happiness, more symptomatic improvement, and higher remission rates than both treatment as usual and treatment as usual plus medication.

Other research suggests that therapies that enhance well-being may confer an advantage over traditional therapies for relieving *residual* symptoms of major depression. One such

therapy, WBT, aims to improve six dimensions of psychological well-being: autonomy, personal growth, environmental mastery, purpose in life, positive relations, and self-acceptance (Fava & Ruini, 2003; Ryff, 1989). In WBT, participants are encouraged to self-monitor episodes of well-being, identify and change beliefs that interrupt well-being, and reinforce beliefs that promote well-being (Fava & Ruini, 2003). Indeed, in a study of 20 patients with remitted affective disorders, WBT resulted in greater increases in psychological well-being compared to cognitive-behavioral therapy according to observer-rated methods (Fava, Rafanelli, Cazzaro, Conti, & Grandi, 1998).

Interventions that promote specific positive perspectives (including forgiveness, hope, and mindfulness meditation) have also been shown to enhance mental health and reduce depressive symptoms. For example, a meta-analysis of several controlled forgiveness interventions suggested that willfully giving up resentment and cultivating empathy for an offender can improve emotional health, as measured by scales of depression, anxiety, hope, and self-esteem (Baskin & Enright, 2004).

Hope therapy is designed to help individuals set meaningful goals, identify pathways to pursuing those goals, and strengthen motivation and monitor progress towards those goals (Cheavens, Feldman, Gum, Michael, & Snyder, 2006; Snyder et al., 1991). A randomized, wait-list controlled study of 32 community members—many of whom had previously undergone psychological treatment and met criteria for a mental disorder—demonstrated that hope-based group therapy reduced depression and enhanced self-esteem and meaning in life (Cheavens et al., 2006).

Finally, the practice of mindfulness meditation, which involves intentional, non-judgmental awareness and acceptance of the present moment (Kabat-Zinn, 1990), has benefitted

treatment-resistant individuals with depression (Eisendrath et al., 2008), reduced residual depressive symptoms (Kuyken et al., 2008), decreased rumination (Ramel, Goldin, Carmona, & McQuaid, 2004), and prevented relapse in recurrent depression (Kuyken et al., 2008).

How Positive Activities Can Alleviate Clinical Symptoms

By Boosting Well-Being

We argue that PAIs can boost well-being in clinical populations by stimulating increases in positive emotions, positive thoughts, positive behaviors, and need satisfaction, which in turn increase happiness. Evidence for these mediating processes comes from studies conducted with healthy populations. For example, a meditation-based positive activity triggered increases in positive emotions, which, in turn, improved personal resources such as social relationships and physical health. These enhanced personal resources then boosted life satisfaction (Fredrickson et al., 2008). In another study, people who practiced gratitude and optimism reported their life experiences as more satisfying, even though objective raters did not indicate actual improvements in these experiences, highlighting how PAIs can shift people's construals of their life events in a positive direction (Dickerhoof, 2007). Furthermore, positive activities, such as counting blessings, have also led participants to increase time spent exercising (an unrelated positive behavior) (Emmons & McCullough, 2003).

Positive activities may also boost well-being by satisfying basic psychological needs, such as autonomy (control) and connectedness (relatedness) (Deci & Ryan, 2000). A 6-week intervention found that expressing gratitude and optimism increased self-reported autonomy and connectedness, which, in turn, increased life satisfaction (Boehm, Lyubomirsky, & Sheldon, 2012). In a study that directly manipulated these hypothesized mediators, people who engaged in

autonomy- and connectedness-enhancing activities attained greater well-being than people who focused on their life circumstances (Sheldon et al, 2010).

By Being Implemented Optimally

To achieve maximal well-being effects in depressed individuals, PAIs must also be implemented in optimal ways. To enhance the efficacy of any particular PAI, researchers must consider (and optimize) the fundamental features of the activity, as well as the person practicing it.

Activity features. Any positive activity used in an intervention has certain characteristics—for example, its dosage, its duration, the variety with which it is practiced, and the format with which it is presented—that are likely to impact its effectiveness in raising well-being and alleviating depression. For example, in general, interventions longer in duration (and of optimal dosage) tend to be more effective than shorter ones (Sin & Lyubomirsky, 2009). In a six-week experiment, only students who performed five acts of kindness in a single day experienced increases in well-being compared to controls; those who spread them over one week were no happier than controls (Lyubomirsky, Sheldon et al., 2005). Because the kind acts were small (i.e., cooking dinner for others, babysitting a sibling), performing them in one day may have delivered a salient burst of positive emotion, which then set into motion an upward spiral of psychological well-being, such that feeling joyful and fulfilled on Monday promoted more productivity at work on Tuesday, and led to performing even more kind acts for a friend on Wednesday, and so on (cf. Fredrickson & Joiner, 2002). PAIs, however, can also be overpracticed, which weakens their freshness and meaning for individuals. Lyubomirsky, Sheldon, and Schkade (2005) instructed participants to cultivate grateful thinking either once or

three times a week. Results suggested that frequency (or dosage) mattered—namely, only participants who counted blessings once a week experienced increases in well-being.

Because practitioners can begin to take for granted or lose enthusiasm for a particular PAI as they practice it over a period of time, it is important to consider what factors can slow down this adaptation. One such factor is the variety with which the positive activity is practiced. Supporting this idea, a 10-week intervention revealed that only those who varied their kind acts each week increased in well-being; those who did not actually became less happy midway through the intervention (Sheldon et al., 2012). PAI practitioners can inject variety by changing up particular strategies or by engaging in several different kinds of positive activities—simultaneously or serially.

Finally, intervention format is associated with greater gains in well-being when practicing PAIs, such that PAIs are most effective (as represented by larger effect sizes) when administered one-on-one, followed by group administration and then by self-administration (Sin & Lyubomirsky, 2009).

Person features. Additionally, features of the person practicing PAIs—for example, her motivation and effort, her beliefs about the efficacy of the PAI, her baseline affective state, and her social support—also affect the success of the interventions. For instance, among participants who visualized their best possible selves, those who identified with and expected to enjoy the exercise were more likely to put effort into continuing the exercise at home over 4 weeks; as a result, they witnessed increases in positive mood immediately after the intervention, as well as maintenance of these boosts, relative to those who engaged in a control activity (Sheldon & Lyubomirsky, 2006). Likewise, in another study, U.S. participants who reported summoning greater effort when practicing gratitude or kindness experienced significantly larger increases in

well-being relative to participants who reported less effort (Layous, Lee et al., 2013). In other words, PAIs boost well-being when people are aware of their purpose, motivated to improve their happiness, and muster effort for this goal.

A person's baseline affective state also moderates the efficacy of PAIs, such that depressed individuals experience more improvements in well-being and greater reductions in depressive symptoms than nondepressed ones (Sin & Lyubomirsky, 2009). Some research has suggested that people low in positive affect or moderately depressed benefit the most from PAIs simply because they have more room to improve (i.e. a floor effect). However, this finding is confounded with treatment format, as clinically depressed individuals tend to be treated with individual or group therapy and nondepressed individuals tend to self-administer. On the other hand, depressed individuals may experience particular emotional, cognitive, or behavioral deficits that prevent them from taking full advantage of some PAIs. In a randomized longitudinal study, practicing gratitude actually *diminished* the well-being of dysphoric (non-clinically depressed) individuals (Sin, Della Porta, & Lyubomirsky, 2011). It is likely that some dysphoric individuals in this study found the exercise of writing a gratitude letter to be highly difficult or burdensome, as lack of energy and motivation are hallmarks of depression. Alternatively, writing a gratitude letter might have backfired if it led depressed individuals to believe they had little to be grateful for (and therefore that they had "failed" at completing their assignment) or if it led them to feel guilty for not reciprocating their benefactor or not thanking him sooner.

Having social support increases the efficacy of many self-improvement goals (e.g., Norcross & Vangarelli, 1989; Wing & Jeffery, 1999), and PAIs are no exception. For example, participants who received autonomy-supporting messages from a peer while performing kind acts saw greater increases in happiness than those who did not receive such social support

(Nelson et al., in press). Similarly, students who read an empathetic peer testimonial about the challenges of an optimism-boosting exercise experienced greater increases in happiness than other groups (Layous, Nelson et al., 2013). Close others can provide encouragement, be a source of inspiration for practicing PAIs (e.g., if they are recipients of gratitude letters), or offer feedback and advice regarding progress towards well-being.

Person-activity fit. Finally, a proper “fit” between a person and a particular PAI is likely to impact the PAI’s success. After all, people have needs, strengths, preferences, values, and interests that predispose them to benefit more from some positive interventions than others. For example, members of collectivist cultures who are depressed might benefit more from other-oriented PAIs (e.g., doing acts of kindness), whereas individualists might benefit more from self-oriented ones (e.g., practicing optimism) (see Boehm et al., 2011, for suggestive evidence). Moreover, certain PAIs are social-behavioral in nature (e.g., helping others), whereas others are reflective-cognitive (e.g., savoring happy times), potentially benefitting lonely and anxious individuals, respectively.

Closing Remark

Most studies on the mechanisms underlying the success of PAIs have been conducted solely with healthy populations. More research is needed to replicate and extend this work in depressed individuals. Positive psychological scientists presently lack full understanding of why certain PAIs (e.g., writing gratitude letters) backfire in clinical populations, as well as of the mechanisms that operate in PAIs that do benefit such populations. Future research should aim to discover which PAIs are most efficacious for alleviating certain depressive symptoms (e.g., acts of kindness to target rumination or best possible selves to target automatic negative thoughts).

Elucidating the critical mechanisms may help both basic researchers and clinicians discover superior interventions for treating clinical populations.

How Positive Activities Can Protect Against Clinical Conditions

Not only can positive activities alleviate preexisting clinical symptoms, but they may also protect against symptoms from arising in the first place. Using Nolen-Hoeksema and Watkins' (2011) transdiagnostic risk factor framework, we propose that positive activities may serve as protective factors in three ways: by mitigating so-called proximal risk factors (e.g., rumination, loneliness), by mitigating mechanisms linking distal and proximal risk factors (e.g., negative self-view, body dissatisfaction), and by mitigating moderators that act on proximal risk factors to produce disorder (e.g., recent loss, current social stress).

First, positive activities such as gratitude, savoring, and kindness may serve as a toolkit when people are faced with negative patterns of thoughts and behaviors (i.e., proximal risk factors and the mechanisms that trigger them). For example, rumination—or focusing attention on oneself and one's problems without taking action to resolve them (Nolen-Hoeksema, 1991)—has been proposed to be a pivotal transdiagnostic proximal risk factor that predicts multiple disorders, especially mood disorders (Nolen-Hoeksema & Watkins, 2011). By performing acts of kindness, for example, individuals may be distracted from rumination and self-focus, as well as corrected of their negative self-evaluations (i.e., with alternate self-views, such as “I am a caring person.”) (Layous, Chancellor, & Lyubomirsky, 2014). In another example of how PAIs might mitigate factors that contribute to psychopathology, gratitude has been found to improve body satisfaction among people who obsess about their body size (Geraghty, Wood, & Hyland, 2010). Similarly, the intervention of affirming one's most important values helps improve unfavorable self-views (Sherman & Cohen, 2006; Steele, 1988), which might, in turn, reduce threatening

self-doubts that could trigger ruminative episodes. Finally, positive emotions triggered by PAIs can help stimulate the creative thinking necessary to solve the problems one might be ruminating about or to prevent those problems from happening in the first place. (Fredrickson, 2001; Isen, Daubman, & Nowicki, 1987).

Loneliness is another proximal risk factor that can be mitigated via increased closeness and connectedness through positive activities. One such positive activity, gratitude, not only boosts feelings of connectedness with others but also promotes relationship maintenance behaviors and satisfaction with existing relationships (Algoe, Gable, & Maisel, 2010; Algoe, Haidt, & Gable, 2008; Lambert & Fincham, 2011; Wood, Maltby, Gillett, Linley, & Joseph, 2008). In one study, for example, when practicing loving-kindness meditation, participant gains in positive emotions during the intervention period predicted increases in perceived social support and fulfilling relationships with others. Moreover, increases in positive emotion were most pronounced when people interacted with others after the activity (Fredrickson et al., 2008). In sum, positive activities foster positive relationships with others, which may mitigate interpersonally relevant risk factors like loneliness, either directly (by reducing feelings of being unloved and alone) or indirectly (by boosting well-being and its associated benefits).

Life stressors can trigger proximal risk factors (e.g., the distal risk factor of childhood trauma can trigger the proximal risk factor of rumination) and also aggravate them (e.g., the death of a loved one might intensify rumination), thus producing psychopathology (Nolen-Hoeksema & Watkins, 2011). Accordingly, positive emotions elicited by PAIs may mitigate such stressful situations by helping people to construe them as more of a challenge than a threat (Folkman, 2008; Folkman & Moskowitz, 2000). Indeed, positive affect is consistently associated with personal growth after traumatic experiences, and studies have shown that positive emotions

play an important role in the adaptive coping response of highly resilient people. Gratitude, for example, has been found to relate to adaptive coping—namely, emotional and instrumental support, positive reinterpretation, active coping, and planning (Wood et al., 2008). People prompted to write gratefully about the positive consequences of an unpleasant event report feeling more closure, fewer intrusive thoughts, and less emotional impact from memories of the unpleasant event (Watkins, Cruz, Holben, & Kolts, 2008). This research suggests that people who express gratitude may be able to temper a negative event, decreasing the likelihood of the event triggering or exacerbating proximal risk factors. Practicing gratitude may also stimulate positive emotions, fostering adaptive coping to other ongoing or future stressful life events, and preventing a downward spiral into clinical symptoms.

In sum, positive emotions triggered by PAIs may serve a number of protective roles (e.g., helping individuals distract, counteract, prevent, or reframe) in preventing mental health conditions from developing.

Future Directions

The majority of the clinically-relevant research on PAIs described in this chapter has been conducted with depressed individuals. However, preliminary evidence demonstrates that positive interventions may also benefit individuals with other mental health conditions. For example, exploratory work on individuals with generalized anxiety disorder has provided evidence for the efficacy of WBT on ratings of anxiety (Fava et al., 2005). Furthermore, writing optimistically about one's best possible selves (King, 2001), cultivating hope by setting and achieving future goals (Cheavens et al., 2006), and being grateful in the face of difficult life circumstances (Watkins et al., 2008) have implications for the treatment of post-traumatic stress disorder. Another class of disorders that may be treated through positive interventions is eating

disorders (i.e., anorexia nervosa and bulimia nervosa). Performing acts of kindness, being grateful for their health, and affirming their most important values may help distract individuals with eating disorders from self-focus and rumination, improve negative body image and increase body satisfaction, and reduce self-doubts and social comparison, respectively, that characterize such disorders (Geraghty et al., 2010; Layous et al., 2014; Sherman & Cohen, 2006; Steele, 1988). All of these mental health conditions (and others, such as addictive disorders or personality disorders) and the corresponding PAIs with the best potential fit need more attention in the literature.

Further research is also needed to advance understanding of when and why PAIs might backfire in clinical populations. Some evidence has shown that overburdening depressed individuals with certain interventions can cause more harm than good. For this reason, it is important to determine what mechanisms cause PAIs to backfire (e.g., the difficulty of the exercise, making failures more salient, or guilty feelings) and the subsequent ways future PAIs may be better tailored to depressed individuals. Moreover, not every depressive episode is alike (e.g., due to idiosyncratic differences in personality, bipolar vs. unipolar depression, bereavement-triggered vs. neurotic-personality-triggered vs. genetically-based depressions, etc.); consequently, PAIs might need to be specifically tailored to these characteristics.

As evident from this chapter, although PAIs have shown promise in the past decade for treating mental health conditions, most researchers who conduct PAIs have focused on normal (nonclinical) samples. As such, a great deal more attention is needed in the coming decade on examining which positive interventions work best in clinically depressed (and other clinical) populations and how to optimize their utility for such populations. Longitudinal research with longer-term follow-ups (i.e., over several years) will be highly informative in establishing the

lasting effects of positive activities, as well as their efficacy relative to antidepressant medications.

Summary and Conclusions

Depression is currently the third leading cause of disease burden globally, and predictions forecast that the burden is only growing larger. The World Health Organization predicts that depression will be the second leading cause of disease burden by 2020, and *the* leading cause by 2030 (Murray & Lopez, 1996; WHO, 2008). Positive activity interventions—that is, experimental programs that primarily aim to cultivate positive emotions and personal strengths—hold promise for augmenting traditional drug and psychotherapy treatment with their potential to benefit patients who have not responded to conventional care. In addition, they are economical, relatively less stigmatizing, and carry no side effects. Importantly, PAIs may also serve as protective factors against some forms of mental illness. Empirical research has already established that well-being can be increased via intentional activity, but future work is needed to test and tailor these interventions for clinical populations, such that the ultimate goal of treatment is not only alleviation of distressing symptoms but happiness and thriving.

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