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Boosting Happiness, Buttressing Resilience

Results from Cognitive and Behavioral Interventions

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The experience of frequent positive emotions—such feelings as joy, contentment, serenity, interest, vitality, and pride—is the hallmark of happiness (Diener, Sandvik, & Pavot, 1991; Urry et al., 2004). Positive emotions are also advantageous during the process of recovery from negative experiences (Fredrickson, 2001; Fredrickson & Cohn, 2007). This chapter examines research on boosting happiness and its implications for resilience. We first describe obstacles to increasing long-term well-being and present a sustainable model of happiness (Lyubomirsky, Sheldon, & Schkade, 2005) that attempts to circumvent those obstacles. Next, we describe several randomized controlled interventions that have tested predictions from this model. Finally, we examine the relation between happiness, positive emotions, and resilience, and consider what can be learned from happiness interventions to inform efforts to increase resilience.

Before continuing, the issue of terminology must be addressed. Frequent positive affect, high life satisfaction, and infrequent negative affect all comprise *subjective well-being* (Diener, Suh, Lucas, & Smith, 1999), the more formal label for the colloquial term *happiness* (Sheldon & Lyubomirsky, 2004). Thus, the terms *well-being* and *happiness* are used interchangeably throughout this chapter.

Can Happiness Be Lastingly Increased?

The pursuit and attainment of happiness is of great interest to millions of people. One need only browse the "self-help" shelves at the nearest bookstore to behold dozens of books advising the best way to obtain a happier life. However, the vast majority of these books are based on little or no scientific theory and rarely offer empirical evidence to support their claims (Bergsma, 2008; Norcross et al., 2000). Despite the lack of scientific data to validate the contentions of much of the trade literature, happiness is pursued

vigorously in not only the United States and Western nations but also across the globe (Diener, Suh, Smith, & Shao, 1995; Freedman, 1978; Triandis, Bontempo, Leung, & Hui, 1990).

If most people desire to be happier, it is instructive to ask whether being happy is truly beneficial. Researchers have determined that the answer is "yes." For example, a meta-analysis examined 225 cross-sectional, longitudinal, and experimental studies that relate happiness to success in multiple life domains (Lyubomirsky, King, & Diener, 2005). This review found happiness to be associated with relatively stronger social relationships (e.g., Berry & Hansen, 1996; Harker & Keltner, 2001; Marks & Fleming, 1999; Okun, Stock, Haring, & Witter, 1984); superior work outcomes (e.g., Estrada, Isen, & Young, 1994; George, 1995; Staw, Sutton, & Pelled, 1994); and more activity, energy, and flow (e.g., Csikszentmihalyi & Wong, 1991; Mishra, 1992; Watson, Clark, McIntyre, & Hamaker, 1992). In addition, relative to their less happy peers, happy people have been found to be less likely to display symptoms of psychopathology (e.g., Diener & Seligman, 2002; Koivumaa-Honkanen et al., 2001) and more likely to show good coping abilities (e.g., Aspinwall, 1998; Bonanno & Keltner, 1997; Carver et al., 1993; Chen et al., 1996; Fredrickson & Joiner, 2002), to act cooperatively and prosocially (e.g., Cunningham, Shaffer, Barbee, Wolff, & Kelley, 1990; Isen, 1970; Williams & Shiaw, 1999), to have bolstered immune systems (e.g., Dillon, Minchoff, & Baker, 1985; Stone et al., 1994), and even to live longer (e.g., Danner, Snowdon, & Friesen, 2001; Maruta, Colligan, Malinchoc, & Offord, 2000; Ostir, Markides, Black, & Goodwin, 2000).

These results persuasively suggest that increasing happiness is a worthwhile scientific goal—because being happy not only feels good but it is also associated with (and often precedes) successful outcomes in life. However, until recently, the feasibility of sustained shifts in individuals' happiness had not been tested empirically. The neglect of this research question is likely due to three historical sources of pessimism regarding sustainable changes in happiness: the existence of a genetically determined happiness "set point," the long-term stability of personality, and the construct of hedonic adaptation (Lyubomirsky, Sheldon, & Schkade, 2005).

The notion of a genetically determined set point for happiness has been supported by a number of twin and adoption studies (e.g., Lykken & Tellegen, 1996; Tellegen et al., 1988). This research indicates that the heritability of well-being is approximately 50% (Braungart, Plomin, DeFries, & Fulker, 1992; see also Hamer, 1996; Williams & Thompson, 1993). Consistent with this finding, Suh, Diener, and Fujita (1996) found that following increases (or even decreases) in their well-being, people tend to return to their baseline levels of happiness over time. This research literature suggests that although well-being can change temporarily, people eventually return to their genetically determined happiness baseline.

The long-term stability of personality traits also presumably highlights the futility in pursuing sustainable increases in well-being. In a longitudinal study, stable individual differences were found to be more accurate predictors of well-being than life circumstances (Costa, McCrae, & Zonderman, 1987). Also, McCrae and Costa (1990) and others have shown that extraversion and neuroticism are strongly correlated with well-being. Thus, levels of well-being should remain relatively constant throughout life because of this strong link to stable personality traits (Diener & Lucas, 1999).

Finally, perhaps the biggest obstacle to increasing chronic happiness is *hedonic adaptation* (Lyubomirsky, 2009)—that is, the gradual process of diminishing emotional responses to positive or negative stimuli over time (Frederick & Loewenstein, 1999; see also Wilson & Gilbert, 2008). Although hedonic adaptation to negative events is welcome and adaptive, studies show that such adaptation is often slow or incomplete. For

example, longitudinal studies demonstrate that people typically do *not* return to their baseline levels of well-being after negative life events, such as a disability (Lucas, 2007), unemployment (Lucas, Clark, Georgellis, & Diener, 2004), divorce (Lucas, 2005), and widowhood (Lucas, Clark, Georgellis, & Diener, 2003). By contrast, people adapt relatively quickly and completely to *positive* experiences (Lyubomirsky, 2009). For example, hedonic adaptation appears to be complete to positive life events, such as marriage (Lucas et al., 2003; see also Lucas & Clark, 2006) or a voluntary job change (Boswell, Boudreau, & Tichy, 2005). These findings suggest that people cannot become lastingly happier because they may not fully adapt to negative life events and will adapt all too fully to *positive* life events. However, as we see later in the chapter, it is important to note that the rate with which a person adapts to a positive or negative experience can be at least partially controlled through conscious intentional activity (Lyubomirsky, 2009).

In summary, several lines of theory and research serve to underscore the difficulty—if not impossibility—of lastingly enhancing well-being. Despite these formidable causes for concern, Lyubomirsky and her colleagues proposed a model specifying how sustainable change in happiness can be achieved (Lyubomirsky, 2008; Lyubomirsky, Sheldon, & Schkade, 2005).

A Model of Sustainable Happiness Change

Given the aforementioned sources of pessimism, how can an individual increase his or her baseline level of happiness for a sustained period of time? To begin, Lyubomirsky, Sheldon, and Schkade (2005) concede the conclusions of previous studies and integrate research on well-being into a single conceptual model. Specifically, they propose that a person's chronic happiness level is determined by three factors: a genetically based happiness set point (accounting for approximately 50% of the individual differences in chronic happiness), life circumstances that affect happiness (10%), and intentional activities and practices (the remaining 40%). To be sure, the percentages of variance are averages of estimates from previous studies, and these three factors undoubtedly interact with one another.

The genetically determined set point for happiness (Lykken & Tellegen, 1996; Tellegen et al., 1988) is perhaps best indicated by an average of several self-reported well-being scores assessed over time (Lykken, 1999) and can be thought of as a point that can move within a "set range" for happiness (Sheldon & Lyubomirsky, 2004). For example, individuals may get promoted (or demoted) at work and experience a boost (or decline) in happiness. However, they eventually revert to their set point (Headey & Wearing, 1989). Due to its fixed nature, the set point is likely to be immune to influence or control. This lack of long-term malleability makes the happiness set point an unlikely and unproductive avenue by which to increase chronic happiness (Lyubomirsky, Sheldon, & Schkade, 2005).

In addition to the set point, a person's life circumstances also impact chronic happiness. Life circumstances are the stable "facts" of a person's life. These include life status conditions (e.g., health, location of residence, material possessions) and various demographic details, such as income, ethnicity, and religious affiliation. What is wrong with trying to attain ideal life circumstances as a prime strategy for increasing happiness? First, life circumstances are typically stable and are therefore vulnerable to the emotionally desensitizing effects of hedonic adaptation (Lyubomirsky, 2009; Sheldon & Lyubomirsky, 2004, 2006a). For example, Sheldon and Lyubomirsky (2006a) found that positive circumstantial changes (e.g., receiving an unexpected scholarship or initiation into a fraternity) were associated with only a temporary boost in well-being. Second, attempting to produce changes in life circumstances can consume time, energy, or resources that a person may not have

and, in some cases (e.g., a real estate downturn when one desires to move) is practically impossible. In sum, changing one's circumstances to increase happiness is not likely to be fruitful.

In contrast to the inadequacy of seeking happiness by changing one's set point or life situation, *intentional activities* appear to offer the best potential for lastingly increasing well-being. As described above, intentional activities and practices can account for as much as 40% of the individual differences in happiness. The scope of these activities and practices is very broad (Sheldon & Lyubomirsky, 2004) and can be cognitive (e.g., having an optimistic attitude; King, 2001; Lyubomirsky, Dickerhoof, Boehm, & Sheldon, 2008; Sheldon & Lyubomirsky, 2006b), behavioral (e.g., writing or sharing a letter of gratitude once a week; e.g., Lyubomirsky, Sheldon, & Schkade, 2005), or motivational (e.g., developing and pursuing life goals; Sheldon & Houser-Marko, 2001). These intentional activities allow people to *act* on their circumstances—through their thoughts, plans, and behaviors—rather than simply reacting to circumstances that are often uncontrollable. Engaging in particular intentional activities is the most effective method of boosting chronic happiness because such activities impede the process of hedonic adaptation (Lyubomirsky, 2009; Lyubomirsky, Sheldon, & Schkade, 2005). Intentional practices are relatively dynamic and episodic, which means that the nature of the activity or the process through which they are completed is varied. By definition, it is difficult to adapt to a context or stimulus that is continually changing. Hence, one is less likely to adapt to and eventually take for granted one's intentional activities than one's static circumstances.

Variation in how intentional activities are implemented can unfold in several ways. For example, activities can be kept fresh and interesting through optimal frequency or timing, such as counting one's blessings once a week as opposed to three times a week (Lyubomirsky, Sheldon, & Schkade, 2005). *Changing* the activities—such as practicing different acts of kindness rather than the same acts week after week (Boehm, Lyubomirsky, & Sheldon, 2009)—can also prevent tedium and produce long-term increases in well-being (Sheldon & Lyubomirsky, 2006a). Furthermore, novel and unexpected activities can yield new experiences that are relatively more salient to an individual and that create lasting recollections (Wilson & Gilbert, 2008). Finally, all of these factors—timing, variety, and surprise—serve to entice attention to the activity, and, as Lyubomirsky (2009) argues, adaptation is less likely when an individual is able to maintain sustained awareness of the activity.

As mentioned earlier, our model of sustainable happiness has been tested in a number of randomized controlled interventions. The results of these interventions provide insight into the causal mechanisms through which intentional practices produce increases in sustainable happiness and forestall hedonic adaptation, and can serve as models for developing ways to enhance resilience in the face of stress or trauma.

Randomized Controlled Interventions

Committing Acts of Kindness

To test the efficacy of implementing a happiness-enhancing strategy, as well as the importance of timing (or frequency), our laboratory conducted a randomized controlled intervention in which participants were instructed to practice random acts of kindness for a period of 6 weeks (Lyubomirsky, Sheldon, & Schkade, 2005). Each week, students performed five acts of kindness, either all in one day or spread over the week. Short-term increases in happiness were found, but only for participants who practiced all five acts of kindness in a single day. This finding supports the idea that timing is critical. In this instance, committing kind acts throughout the week (as opposed to all in one day) may have diminished the salience of each act, perhaps making it less

distinguishable from other kind acts the student typically performed. In another kindness study, participants who simply counted their acts of kindness over the course of a week reported relatively higher levels of subjective happiness compared to a control group (Otake, Shimai, Tanaka-Matsumi, Otsui, & Fredrickson, 2006).

Another intervention conducted by our laboratory required students to practice acts of kindness for 10 weeks (Boehm et al., 2009). Participants performed kind acts either three times or nine times each week, and either repeated essentially the same act weekly or varied it. By contrast, a control group simply listed events of the past week. Surprisingly, the results indicated that the frequency of performing kind acts did not affect well-being. However, students who varied their kind acts showed an increase in happiness immediately after the intervention and up to 1 month later. Participants who were not given the opportunity to change their kind acts actually reported lower happiness midway through the intervention but eventually returned to their baseline level at the follow-up assessment. In summary, the kindness interventions conducted to date illustrate that happiness can be amplified by intentional activity, and that both timing and variety moderate the effectiveness of practicing a happiness-enhancing strategy.

Expressing Gratitude and Optimism

In another randomized controlled intervention from our laboratory we instructed participants to express gratitude regularly (Lyubomirsky, Sheldon, & Schkade, 2005). We adapted the methodology of Emmons and McCullough (2003), who found promising evidence for the efficacy of this intervention, suggesting that grateful thinking promotes the savoring of positive events; however, they did not measure pre- and postintervention levels of well-being. In another relevant study, Seligman, Steen, Park, and Peterson (2005) found that writing and sharing a gratitude letter produced an increase in happiness up to 1 month after the intervention. In our 6-week intervention, experimental participants listed in a "gratitude journal" up to five things for which they were grateful, either once a week or three times a week, whereas control participants simply completed the happiness assessments. Participants reported an increase in well-being only if they "counted their blessings" once a week. Once again, this finding supports the notion that the frequency of a happiness-increasing activity is crucial. In this instance, students who were instructed to write in their gratitude journal three times a week may have found the activity to be less fresh and meaningful (and more chore-like) over time than did those who only expressed gratitude once a week (Lyubomirsky, Sheldon, & Schkade, 2005).

In another intervention from our laboratory we tested the moderating effect of *motivation* by allowing participants to choose between one of two experiments. Those who opted to enroll in an experiment described as being designed to boost happiness comprised the "motivated" group, and those who opted into an experiment described as involving "cognitive exercises" served as the "nonmotivated group" (Lyubomirsky, Dickerhoof, Boehm, & Sheldon, 2008; Study 1). All students were then asked to express gratitude (by writing gratitude letters), to express optimism (by writing in a journal about the future accomplishment of their life goals and dreams; Markus & Nurius, 1986), or to complete a comparison control activity once a week over 8 weeks.

Participants who were apparently motivated to become happier, regardless of the intervention activity, had higher levels of well-being at the end of the study compared with participants who were not so motivated. In addition, the highest well-being benefits of our intervention accrued to those students who had a high degree of "fit" with their assigned activity (i.e., those who found the activity enjoyable and natural to perform), who exerted more effort in the activity during the 8-week intervention period, and who

continued to practice the activity after the intervention period was finished. Finally, the gratitude and optimism interventions led people to have more positive thoughts and experiences, which in turn increased happiness (Lyubomirsky et al., 2008). These findings demonstrate the importance of four variables that moderate the effectiveness of practicing particular activities—namely, motivation to become happier, fit with the happiness-enhancing activity, effort in completing the activity, and continued practice of the activity, as well as the significance of one mediator (positive thoughts and events).

A follow-up study sought to test whether the effects of happiness-increasing practices, and the mechanisms that underlie them, generalize across cultures. Using an experimental design nearly identical to that used in the study described above, we found that, relative to a control group, both Anglo Americans and Asian Americans who practiced gratitude or optimism for 6 weeks reported significant increases in well-being immediately after the intervention had ended and up to 1 month later, but Anglo Americans put more effort into the intervention and benefited from it more (Lyubomirsky et al., 2008; Study 2). However, during the actual intervention, Asian Americans showed larger increases in sense of connectedness and feelings of gratitude than did Anglo Americans, and were later more likely to continue to engage in the exercises. These findings highlight intriguing cultural differences in the effectiveness of happiness-enhancing activities, which may be accounted for by differences in "independent" versus "interdependent selves" found in Anglo versus certain Asian cultures (Markus & Kitayama, 1991). However, some processes appear to be shared across cultures. For example, we found that increases in happiness in *all* our participants were mediated by increases in gratitude, optimism, relatedness, autonomy, and the experience of positive events.

Finally, Sheldon and Lyubomirsky (2006b) conducted a 4-week intervention that included an optimism condition (e.g., visualizing and writing about one's best possible selves), a gratitude condition (e.g., counting one's blessings), and a control condition (outlining the typical events of one's day). Corroborating previous findings that visualizing one's best possible selves is associated with increased optimism and higher levels of well-being (King, 2001), significant increases in positive affect were found for participants who practiced optimism (but, interestingly, not for those who practiced gratitude). Notably, however, *self-concordant motivation* (i.e., identification with the activity and interest in continued practice; Sheldon & Elliot, 1999) had a moderating effect on the effectiveness of this intervention. This study provides further support for the efficacy of practicing optimism and reveals the moderating effect of self-concordant motivation.

Taken together, these four gratitude and optimism interventions highlight the importance of moderating and mediating variables that underlie the efficacy of intentional activities to improve happiness.

Processing Unhappy and Happy Life Experiences

A series of studies from our lab tested which ways of processing unhappy and happy life experiences serve to enhance well-being (Lyubomirsky, Sousa, & Dickerhoof, 2006). In Study 1, students were instructed to write, talk, or think privately about their worst life experience for 15 minutes on 3 consecutive days. Students who wrote or talked about a negative past experience reported higher levels of well-being and physical health compared to students who thought privately about the experience. This pattern was also found 4 weeks later.

These results have interesting implications for the best way to cope with a negative event. The process of writing or talking about a traumatic event requires that words be organized into a coherent story. This inherent structure-making function of writing or talking about a trauma may have allowed students to make sense of the experience and "let go" of the negativity surrounding

it (Pennebaker, 1993; Pennebaker & Francis, 1996). In contrast, thinking about a traumatic event tends to be relatively more image-based and chaotic, and does not lend itself as easily to organization and structure. Indeed, focusing repetitively on negative cognitions can lead individuals to reexperience and ruminate about negative experiences (for reviews, see Nolen-Hoeksema, 1991; Nolen-Hoeksema, Wisco, & Lyubomirsky, 2008).

In Study 2, students were instructed to write, talk, or think privately about their *happiest* life event. In a result that was essentially the converse of that in Study 1, participants who thought privately about their happiest experience reported a greater increase in life satisfaction than did those who wrote or talked about such an experience. Finally, to examine the mechanisms underlying these differing patterns of results, in Study 3 we instructed students to analyze (i.e., make sense of and try to understand) or replay (i.e., reexperience) their happiest life event while writing or thinking about it. Results indicated that participants who thought about and replayed their happiest life experience—without systematically trying to figure out why it happened—reported the highest well-being over time compared with participants who wrote about and analyzed such an event (who reported the lowest well-being). In summary, this research suggests that seeking systematically to understand one's negative life events is beneficial to happiness. In contrast, when it comes to positive life events, savoring and reexperiencing them (*without* analysis) is more adaptive (cf. Wilson & Gilbert, 2003).

Enhancing Psychological Resilience

The studies we have described thus far all tested the efficacy of the practice of happiness-enhancing strategies by individuals who, on average, were psychologically healthy and not facing severe stressors. However, the use of happiness-enhancing strategies is potentially valuable not just for normal, well-adjusted individuals but also for those suffering from both subclinical symptoms and clinical disorders, including both reactive and chronic depression and anxiety (Lyubomirsky & Dickerhoof, in press).

An important framework related to positive behavioral activities involves the enhancement of psychological resilience. Defined as the ability to recover from negative emotional experiences (J. H. Block & Block, 1980; Block & Kremen, 1996; Lazarus, 1993), *resilience* involves a process by which a person experiences positive emotion in the face of adverse circumstances (Carver, 1998; Tugade & Fredrickson, 2004).

The process of resilience generally unfolds in response to the experience of *stress*, which occurs when a circumstance or event is "appraised by the person as relevant to his or her well-being and in which the person's resources are taxed or exceeded" (Folkman & Lazarus, 1985, p. 152). In the event of a stressful experience, resilience is the mechanism that allows a person to cope with and recover from the harmful effects of negative emotional appraisals that often accompany stress. This is accomplished primarily by managing negative emotion and by mustering behavioral reactions to improve the stressful circumstance (Folkman & Lazarus, 1980). Thus, resilience helps people to cope with stressful life events and to take proactive behavioral actions to ensure more positive emotional appraisals of the events (Folkman & Lazarus, 1985).

Resilient individuals have also been found to build supportive social networks that facilitate coping (Demos, 1989; Kumpfer, 1999) and to show faster cardiovascular recovery after negative events (Tugade, Fredrickson, & Barrett, 2004). In summary, research indicates that resilience is a desirable psychological characteristic. Thus, an important question concerns whether an individual can purposefully enhance his or her level of resilience through the use of

happiness-enhancing strategies. Prior work has suggested that increases in well-being can facilitate coping with future negative experiences (Reich & Zautra, 1981). This, and evidence from several other empirical studies, suggests that the answer to whether resilience can be bolstered is "yes."

Previous research using happiness-enhancing strategies with a clinical population has shown that the use of several mood-boosting "exercises" helped to alleviate symptoms of depression (Seligman et al., 2005; Seligman, Rashid, & Parks, 2006), and the expression of gratitude and optimism among healthy students led to a reduction of depressive symptomatology for up to 6 months after the intervention ended (Lyubomirsky et al., 2008). Indeed, in comparison to the maladaptive strategies (e.g., rumination) typically used by depressed and dysphoric people to cope with negative events, these positive activities can serve as relatively more effective alternative coping strategies (Lyubomirsky & Dickerhoof, in press).

Why do we expect that happiness interventions can be successfully applied to individuals facing severe stressors, traumas, or clinical disorders? The critical mechanism involves *positive emotions*—that is, feelings of joy, pride, curiosity, peacefulness, vigor, or affection—that are generated from continued practice of intentional happiness-boosting strategies. Notably, although the studies described above offer persuasive evidence that particular activities increase happiness, their results also reveal *how* and *why* such increases arise. For example, in one study, we found that one reason committing acts of kindness for others led to increases in happiness is that the actors perceived gratitude in the recipients of their kind act (Boehm et al., 2009). In two other studies, described above, individuals who practiced either gratitude or optimism reported more positive daily experiences (Lyubomirsky et al., 2008; Studies 1 and 2), and increased feelings of connectedness, gratitude, autonomy, and optimism (Study 2), leading them to become happier. In all cases, a positive shift in how people perceived themselves and the world around them mediated the relationship between the practice of happiness-increasing intentional activities and reported increases in well-being (Lyubomirsky & Dickerhoof, in press).

These mediating factors—more positive construals, more positive experiences, and more positive emotions—are critical to understanding how and why happiness interventions can be effective in the wake of negative events and in clinical contexts. The key mechanism, as Fredrickson and Levenson (1998) have argued, is that positive emotions can "undo" the harmful effects of negative emotions. For example, participants induced to experience positive emotions—namely, joy and contentment—show increased cardiovascular recovery after an anxiety-inducing stimulus (Fredrickson, Mancuso, Branigan, & Tugade, 2000). In addition, positive emotions have been found to aid in coping with stress (Ong, Bergeman, Bisconti, & Wallace, 2006; for a review, see Folkman & Moskowitz, 2000) and bereavement (Bonanno & Keltner, 1997). Recent data from our laboratory extended this finding to depression (Dickerhoof, 2006). Those who were instructed to practice gratitude or optimism reported experiencing more frequent positive emotions, such as contentment and pleasure, for as long as 3 months after our intervention had ended. Notably, those very positive emotions in turn led the same individuals to show reduced depressive symptoms as long as 6 months after the study.

These studies highlight ways that happiness interventions—mostly through their impact on positive emotions, positive thoughts, and positive events—can help people build resilience in the face of adversity and bounce back from negative experiences. This process can occur via three mechanisms. First, emotions such as joy, satisfaction, and interest, marshaled by positive interventions provide individuals with a sort of "psychological

time-out" in the face of stress and help them perceive the "big picture" of their situations. Hence, a negative or even traumatic circumstance can become less overwhelming and less impactful on all life domains.

Second, happiness activities can counteract negative, dysfunctional thoughts and, instead, bolster positive thinking. For example, hopeful expectations produced by the optimism strategy can replace thoughts of hopelessness and powerlessness. As mentioned above, two studies from our laboratory showed that those who actively and regularly practiced either gratitude or optimism over a 6- to 8-week period came to regard their routine experiences in more positive ways (e.g., finding everyday events—meeting a friend, commuting to work, cooking dinner—more satisfying; Lyubomirsky et al., 2008; Study 1) and to report more grateful, optimistic, autonomous, and relationship-enhancing thoughts (Study 2). These more positive thoughts and interpretations in turn triggered improvements in well-being.

Finally, happiness activities often bring about positive experiences. For example, practicing acts of kindness produces moments in which people feel efficacious and appreciated, and can even generate new friendships. Consistent with this notion, we found that people who expressed optimism or gratitude reported experiencing more positive events that linger with them, and that these experiences mediated increases in their happiness (Lyubomirsky et al., 2008; Study 2). Nonetheless, it is important to note that people who face stressors would do well not only to increase positive emotions but also to decrease negative emotions through a variety of empirically verified techniques, including cognitive-behavioral therapy (Beck, Rush, Shaw, & Emery, 1987; Hollon, Haman, & Brown, 2002), mindfulness-based stress reduction (Kabat-Zinn, 1990), and, when appropriate, psychopharmacological treatment (Klein, Gittelman-Klein, Quitkin, & Rifkin, 1980). In summary, happiness-enhancing intentional activities produce positive emotions that can counteract the effects of negative emotions, as well as generate positive thoughts and positive experiences. Through these processes, we argue that such activities are likely to be effective in enhancing psychological resilience.

Future Directions and Conclusions

Much remains to be learned about the efficacy, implementation, and mechanisms underlying happiness-enhancing strategies. First, long-term follow-up is required to determine whether the effects of activities such as expressing gratitude or optimism remain beyond 6 to 9 months after the intervention (Lyubomirsky et al., 2008; Seligman et al., 2005). Because our laboratory is interested specifically in how and why people can enhance and maintain happiness (and, hence, resilience) for the *long term*, we need to test the effects of various happiness-enhancing strategies over extended periods of time. Second, further research is needed on the effects of happiness interventions on not only long-term negative states and syndromes (e.g., depression) but also daily stressful experiences related to short-term psychological hardship. Third, the consequences of practicing happiness-boosting activities are yet to be associated with all of the benefits related to happiness itself (Lyubomirsky, Sheldon, & Schkade, 2005). Although we have already begun to address this issue in our laboratory (e.g., Boehm et al., 2009), more investigation is required to identify the spillover advantages of practicing happiness interventions (e.g., with respect to improved relationships, enhanced optimism and self-esteem, increased income and work productivity, or bolstered immune function) beyond a boost in well-being. Of course, many of these "fringe benefits" of increased happiness can also serve as bona fide mechanisms that underlie and impact resilience.

Finally, it will be crucial to advance our knowledge of *how* and *why* positive inter-

ventions are effective. As one example, the benefits of such interventions may be moderated by a person's actual or perceived effort toward them (Zautra & Reich, 1980), as well as by a person's motivation to improve and by degree of "fit" with the type of intervention (Sheldon & Elliot, 1999); indeed, preliminary evidence from our laboratory supports these suggestions (Lyubomirsky et al., 2008). Interventions that enhance efficacy (Blazer, 2002) are also likely to be associated with increased well-being and resilience. Our laboratory is currently conducting a set of studies that is testing a number of moderators underlying strategy effectiveness. This research aims to answer several questions: Does belief in the importance of being happy, and the degree to which one desires to pursue happiness, matter when one practices a happiness activity (Lyubomirsky, 2000)? Does social support (e.g., having a reassuring and helpful friend or family member) bolster the benefit of a happiness activity? Does one's unique personality trait profile moderate the effectiveness of practicing a happiness activity? Does the ability to slowly and reflectively solve problems or make decisions impact the practice of a happiness activity (Frederick, 2005)? Can placebo effects explain the activity's benefits? And, finally, does one's initial level of depression matter when one practices a happiness activity?

In addition to the strategies mentioned above, numerous alternative happiness-boosting techniques can be further tested and implemented independently or in conjunction with traditional happiness interventions. As a case in point, environmental interventions—for example, those involving using pleasant artificial scents, cheerful music, or warm white lighting—have been shown to increase positive affect and efficiency in task performance (Baron, 1990), creativity (Adaman & Blaney, 1995), and collaborative conflict resolution (Baron, Rea, & Daniels, 1992; Study 2), respectively. Indeed, combining environmental manipulations or other techniques that boost well-being with cognitive and behavioral interventions might produce synergistic or multiplicative effects on happiness and other positive outcomes.

Positive emotions are essential not only for producing durable happiness, but also for bolstering coping and resilience in the face of adversity. However, little current empirical research bears directly on this notion. As highlighted above, future studies should explore the extent to which happiness interventions can increase resilience by producing positive emotions, positive construals, and positive experiences. It is our hope that the results of future studies will further elucidate the complexity of positive intentional activities and provide insight into how these interventions can help to enhance happiness and psychological resilience in healthy, stressed, and clinical populations.

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