

## Malleability and Intentional Activities

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### Abstract:

Whether people can sustainably change their level of happiness has been a topic of much debate in the psychological literature, with some researchers suggesting that happiness change is futile and others suggesting that it is quite possible, even if challenging. The current chapter reviews the literature on the major sources of happiness including genetics, life circumstances, and intentional activities, pointing to evidence of both stability and malleability in happiness over time. Although happiness is stable over time, evidence suggests that changes in certain life circumstances and the effortful practice of intentional happiness-increasing activities can shift happiness. Research also suggests that increases in happiness are not only valuable because they make life more pleasurable, but also because they trigger successful outcomes in other important life domains (e.g., improved relationships, work, and physical health). Although research on the potential downsides of over-valuing happiness serves as a warning for the excessive pursuit of happiness, research on prioritizing positivity paints a healthier version of happiness-seekers who organize their daily lives around opportunities for greater happiness. Finally, intentional happiness-increasing activities—often called Positive Psychological Interventions—are discussed, including their mechanisms, moderators, and areas for future research. In sum, the research suggests that happiness change is possible, but not easy. Through persistent effort directed toward efficacious interventions, people can intentionally boost their happiness.

**Keywords:** happiness change, happiness stability, hedonic adaptation, happiness interventions, positive psychological interventions

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*Happiness is not something ready-made. It comes from your own actions – His Holiness the 14<sup>th</sup> Dalai Lama of Tibet*

*It may be that trying to be happier is as futile as trying to be taller and therefore is counterproductive – Lykken & Tellegen, 1996*

The two quotes above represent two schools of thought on the malleability of happiness. The first quote, from the Dalai Lama, asserts that happiness is a result of people's actions, providing hope that happiness is as changeable as behavior. In contrast, the second quote, from two authors of a classic paper on the genetic basis of happiness, asserts that trying to change people's happiness is as futile as trying to change their physical characteristics. A deep dive into the research on the various sources of happiness (e.g., genetics, life circumstances, intentional activities) provides support for both perspectives. That is, evidence suggests that happiness can change but that this change requires sustained effort and is difficult to maintain over time. Nevertheless, the prognosis on the malleability of happiness does not seem quite as grim as Lykken and Tellegen (1996) presumed. That said, even if people can become happier, questions remain about whether and how they should pursue this happiness. Thus, recent research has sought not only to answer the question "can people become happier?" but also "should people pursue happiness?" and, if so, "how can people effectively increase their happiness?"

## Can People Become Happier?

Researchers cite many different types of evidence to answer the larger question of whether people's happiness can change. First and foremost, researchers explored whether genetics influence happiness (i.e., is happiness heritable?). The short answer is yes, but the longer and more nuanced answer is

covered below. Secondly, researchers explored whether life circumstances (e.g., being rich, being male, or being married) are related to happiness. The resounding conclusion is that these types of circumstances are related to happiness, but not as much as conventional wisdom might suggest. People tend to adapt to emotionally evocative situations in their lives such that positive or negative events in people's lives elicit less intense positive or negative emotions, respectively over time, making any one event or circumstance less likely to permanently affect happiness (i.e., hedonic adaptation). Of course, there are variations on this theme that are discussed below. Even though genetics and life circumstances explain some differences in happiness across people, they do not explain the total variance, leaving room for other explanations that might be more under people's control (i.e., intentional activities).

## **Genetics**

Most of the evidence pertaining to the genetic influence on happiness comes from behavioral genetics studies. The most common design is one in which researchers calculate the correlation in happiness scores between identical (monozygotic) twins reared together (those who share 100% of their genes) and between fraternal (dizygotic) twins reared together (those who share about 50% of their genes). If identical twins have a higher correlation in happiness scores than fraternal twins, a genetic influence of happiness can be inferred (i.e., happiness is considered to be heritable). The twin designs and associated analyses can be much more complex than the design just described and can yield more detailed information, but they all rely on comparisons of correlations between twins or siblings who share a certain amount of genes (see Genetics and Heritability chapters in this Handbook).

Across multiple studies in multiple samples, using multiple different measures of well-being, researchers have consistently estimated that happiness is about 40 to 50% heritable (e.g., Bartels & Boomsma, 2009; Røysamb, Tambs, Reichborn-Kjennerud, Neale, & Harris, 2003; Stubbe, Posthuma, Boomsma, & de Geus, 2005). That is, after correcting for unreliability, about 40 to 50% of individual differences in happiness across a population are due to genetics. Importantly, heritability is not deterministic. In one illustrative example, Røysamb, Nes, and Vittersø (2014) calculated difference scores between identical twins on an 11-point subjective well-being index. The absolute mean difference was 1.28, with 51.4% of twin pairs having at least a one point difference. This indicates that even two people with an identical genotype can still vary substantially in happiness.

The aforementioned studies measured one's global level of happiness at one time point and calculated heritability estimates at that time point. Other studies measured happiness across time, up to 10 years apart and found a strong correlation between individual's scores from time 1 to time 2 (.50 to .67, depending on the age of the sample with the older sample being more stable). Across three samples, researchers found that the stability of happiness (how correlated scores were from time 1 to time 2) was highly heritable—80% was accounted for by genetics (Lykken & Tellegen, 1996; Nes, Røysamb, Tambs, Harris, & Reichborn-Kjennerud, 2006). This stability could be interpreted to mean that any short-term changes in happiness due to life events or intentional activities will be short-lived, as one will return to their original happiness level over time (i.e., their "set-point"; e.g., Lykken & Tellegen, 1996). Notably, however, a quarter of people do substantially change in well-being over time (Fujita & Diener, 2005) and, despite the high genetic influence on the stability that does exist, there are still substantial within-twin-pair differences across time (Røysamb et al., 2014). For example, Røysamb and colleagues (2014) isolated one member of an identical twin pair who scored high (above 8.5 on a scale from 0 to 10) at time 1 and at time 2 six years later (showing stably high well-being). The means across this group of twins were 9.25 and 9.22 at time 1 and time 2, respectively. The means for their co-twins were 8.4 and 8.34, respectively. Thus, at some point, an environmental influence had set these twin pairs on stable yet different well-being paths.

In sum, given the heritability estimates of happiness, there is empirical evidence to support the contention that some people are born happier than others. That said, this so-called genetic "set-point" is not deterministic and there are environmental factors or perhaps intentional behaviors that can set people on different well-being trajectories. For example, Haworth and colleagues (2016) administered a multi-week positive psychological intervention in a sample of identical and fraternal twins and found that average well-being across the sample improved even though estimates of genetic effects remained consistent across time points. Future intervention studies with genetically sensitive designs would continue to illuminate the interaction effects between genes and environments on happiness.

## **Life Circumstances**

If genetics do not completely predetermine happiness levels, environmental factors are likely at play. Conventional wisdom may suggest that people who are younger, richer, and more attractive would be far happier than those who are older, poorer, and uglier. Extensive research has explored how much stable life circumstances (e.g., income, age, physical attractiveness, or marital status) are related to well-being. Generally, these life circumstances do not explain as much of the individual differences in happiness as

people might expect—researchers typically find that about 10-15% of individual differences in happiness are explained by their combined life circumstances (Diener, Suh, Lucas, & Smith, 1999). Notably, the estimate may depend on what type of well-being is being measured. For example, in a worldwide sample, 24% of the variance in life satisfaction, but only 5% of the variance in affect, was attributable to country-level differences (Tay, Chan, & Diener, 2014; Tay & Diener, 2011). Although people might consider 5 or 10% to be a nominal amount, it is not.

Correlations are difficult to interpret practically, and even small correlations can lead to meaningful differences in happiness across people (see Rosenthal & Rubin, 1982). For example, the within-country correlation between personal happiness and personal income is .17 (Lucas & Schimmack, 2009). Although this may seem small, Lucas and Schimmack (2009) noted that this yields a difference in happiness of about 0.75 standard deviations between people making \$200,000 versus people making \$10,000 a year and people making \$200,000 were still at least 0.50 standard deviations happier than those making about \$55,000 (the average income in the sample). Thus, although life circumstances do not explain as much of the variance in individual differences in happiness as people might expect, that does not mean that they do not meaningfully relate to happiness. In addition, much of the research is conducted on people who are meeting basic needs and thus we likely do not have a good estimate of how much changing income from poverty to subsistence may change someone's well-being. Indeed, in developing countries with the lowest incomes, the relationship between income and well-being is higher than it is in developed countries or even in developing countries with higher incomes, indicating that the lower your income, the more income increases will matter for your well-being (Howell & Howell, 2008). Likewise, we likely do not have a good estimate on how much marriage could change the well-being of someone who was utterly lonely before meeting their life partner. Thus, the effect of life circumstances likely varies across people and situations.

Another piece of evidence to support the importance of life circumstances in explaining well-being are consistent between-country differences in happiness ratings. If life circumstances did not matter much for well-being, researchers would not find such vast differences in well-being between countries like Denmark (high happiness) and Sierra Leone (low happiness; Diener, Ng, Harter, & Arora, 2010). Indeed, even after controlling for individual income, societal levels of income predicted happiness in a sample of 132 countries, indicating that there may be something about a nation's wealth beyond individual prosperity that contributes to a sense of well-being (Diener et al., 2010). In time-series data, researchers found that happiness rose in 45 of the 52 countries they studied and these increases were explained by the degree to which a society allowed free choice (Inglehart, Foa, Peterson, & Welzel, 2008). Over time, countries that became democratized, developed economically, and increased in social tolerance also showed increases in their residents' perceptions of free choice, which in turn fed into increased well-being (Inglehart et al., 2008).

Notably, estimates of heritability largely come from twin samples within economically stable and democratic countries (e.g., U.S., Netherlands, England, and Norway), thus do not have the cross-country variety like Inglehart and colleagues' (2008) sample included. With less variance in environmental factors that may affect well-being, heritability (versus environmental) estimates may be over-estimated in these samples. Similarly, the relative stability in well-being among people over time could be because the research largely draws from countries in which the types of environmental factors that affect well-being remain relatively stable. That said, even within the U.S., income inequality is related to lower happiness, indicating that shifting circumstances within stable countries can also relate to well-being (Oishi, Kesebir, & Diener, 2011). Specifically, in years with greater income inequality, happiness is lower in the U.S and these changes are mediated by lower perceptions of fairness and trust in people.

Thus, life circumstances do contribute to well-being. That said, as many researchers have noted, they do not contribute as much as we might expect. Most researchers explain the relatively low percentage of the variance attributable to life circumstances as a result of the natural process of adapting to our environments—hedonic adaptation.

### **Hedonic Adaptation**

Hedonic adaptation is the process by which people adapt to the emotionally salient events or circumstances in their lives—both negative and positive—such that they do not feel the emotions as intensely over time as they did when the event or circumstance first occurred (Brickman & Campbell, 1971; Frederick & Loewenstein, 1999; Lyubomirsky, 2011; see also Luhmann & Intelisano, 2017 in this e-Handbook for a comprehensive review of theories and empirical evidence related to hedonic adaptation and set-point theory). The process of hedonic adaptation is often used to explain why people fluctuate around a stable level of well-being (i.e., a set-point or set-range; see Diener, Lucas, & Scollon, 2006 for a review). Although there is evidence that people adapt to life events, there is also evidence that people vary

in the degree to which they adapt, that people vary in their rate of adaptation, and that different events have different rates of adaptation (Diener et al., 2006; Lucas, Dyrenforth, & Diener, 2008).

The best way to investigate hedonic adaptation is with large panel studies that track individuals, their life events, and their happiness levels over time. Fortunately, a few such panel studies exist, allowing for this type of investigation. An oft-cited finding is that people experience a boost to their well-being when they get married, but then return to pre-event levels of well-being about two years post-marriage (Lucas, Clark, Georgellis, & Diener, 2003; Yap, Anusic, & Lucas, 2012). Notably, however, Lucas and colleagues (2003) found substantial variability in adaptation to marriage with some people adapting more or less quickly than the average two years, and some people never adapting. They concluded that although on average there was evidence of adaptation to marriage, adaptation should not be viewed as an inevitable process as it did not happen for all and rates and trajectories of change varied across people.

Anusic, Yap, and Lucas (2014) offered yet another perspective to the puzzle of hedonic adaptation in marriage when they compared changes in well-being over time to those who had been married to those who had never been married. They found an age-related dip in well-being over time in the never-been-married group and noted that marriage actually seemed to slow this dip. Thus, it is possible that the declines in well-being seen after marriage are not due to hedonic adaptation to marriage, but just normative age-related declines in well-being during mid-life as responsibilities ramp up.

Although adaptation seems to occur on average to positive events like marriage (see also childbirth; Dyrda & Lucas, 2013; Yap et al., 2012; Anusic et al., 2014) and job change; Boswell, Boudreau, & Tichy, 2005), adaptation to negative events is not as complete. Researchers have found that people do not adapt as quickly or at all to negative events such as widowhood (Lucas et al., 2003; Yap et al., 2012), divorce (Lucas, 2005), disability (Lucas, 2007), or unemployment (Lucas, Clark, Georgellis, & Diener, 2004; Yap et al., 2012; but see Anusic et al., 2014 for normative age-related changes comparison). It is evolutionarily adaptive for negative events to grab people's attention so that they can address threat and promote survival and it is likely also adaptive to remember the threat vividly as to avoid it in the future (Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001). Thus, adaptation to positive and negative events is asymmetrical—on average, people are quicker to adapt to positive than negative events.

Because adaptation varies across people and is often incomplete for negative events, there may be characteristics of the events or how people handle them that could make people less likely to fully adapt to positive events, therefore extracting greater well-being over time. Although negative events and the memory of them naturally hold people's attention, there could be intentional ways in which people forestall their adaptation to positive events. Sheldon and Lyubomirsky (2012) note that as time passes, positive events provide fewer positive emotions (see also Lyubomirsky, 2011). At the same time, people's aspirations for their lives increase, undermining happiness. In their Hedonic Adaptation Prevention model, Sheldon and Lyubomirsky (2012) suggest that hedonic adaptation to positive events can be forestalled if people actively focus on appreciating the positive events or experiences (therefore keeping them at the forefront of the mind just like negative events are more naturally) and also infusing them with variety so that positive events and experiences can stay fresh over time. For example, a marriage may cease giving as much pleasure as the partnership gets more routine and less exciting over time. In addition, people may come to expect that their partner will do certain things for them (e.g., wash the dishes) and may have increasing aspirations for what they think constitutes good partner behavior. The Hedonic Adaptation Prevention model suggests that people should actively appreciate their partners and put effort into doing new and exciting things with their partner, just as they would have in the beginning of the relationship. These activities may slow hedonic adaptation or at least give much needed boosts of positivity into the relationship along the way, allowing for marriage to be a continual source of well-being.

### **Intentional Activities**

Suggesting ways in which people can intentionally forestall hedonic adaptation leads directly into a discussion of ways in which people can intentionally increase their happiness in general—not only in response to a positive life event or experiences. As mentioned before, research suggests that about 50% of individual differences in happiness are likely due to genetics and about 10-15% are likely due to people's life circumstances. As Lyubomirsky, Sheldon, and Schkade (2005) pointed out, this leaves a great deal of individual differences in happiness unexplained. They suggested that these unexplained differences may be due to how people respond to the events in their lives and the activities that they choose to engage in. Although behavior change is not easy by any means, intentional activities meant to boost happiness provide a more optimistic route to sustained happiness change than genetics and life circumstances. Furthermore, as noted above, intentional activities could also positively affect the degree to which life circumstances explains individual differences in happiness, helping people extract more positivity out of the favorable aspects of their lives. Thus, although the percentages of how each source of happiness affects

well-being (genetics, circumstances, and intentional activities) are not set in stone, the likelihood remains that at least part of well-being can be alterable via intentional activities. Furthermore, heritability estimates do not address the possibility that an entire population's well-being could be raised by societal factors like free choice or individual intentional happiness practices. I will address more about activities to intentionally boost happiness later in this chapter, but I would be remiss not to mention them as evidence that happiness can change. Two meta-analyses of dozens of randomized controlled studies concluded that intentional activities can increase people's happiness (Bolger et al., 2013; Sin & Lyubomirsky, 2009) and more evidence is accumulating each year about what factors make these intentional activities most likely to improve well-being.

### **Happiness Can Change Over Time**

Lastly, and perhaps most persuasively, we know that happiness can change over time because it has changed for some people. Lykken and Tellegen (1996) asserted that they did not think happiness could sustainably change, but they found that happiness scores in their sample across time were correlated at .50. Although this is a strong correlation, it accounts for only about a quarter of the variance in happiness scores over time, leaving room for the interpretation of substantial change. Part of the variance in happiness scores over time could be attributed to measurement error, but the fact remains that real changes in happiness in their sample are plausible. Indeed, in a separate study, Fujita and Diener (2005) found that 24% of people in their sample changed in life satisfaction significantly over 17 years and 9% changed by two standard deviations or more. One may argue (correctly) that Fujita and Diener's (2005) findings indicate that over half of respondents did not change in life satisfaction over the 17 years, providing strong evidence of the stability of life satisfaction. Although this is true, exploring the lives of the quarter of people who did change could provide insight into what factors lead to sustainable shifts in happiness. Furthermore, this sample was not engaged in any sort of intentional practice to shift well-being—they were just going about their daily lives. Even then, some people showed meaningful change, indicating that it is possible.

## **Should People Intentionally Pursue Happiness?**

The evidence reviewed thus far demonstrates that changing one's happiness is possible yet challenging, but the question still remains whether pursuing greater happiness is worth the effort. For example, are increases in happiness only for their own sake (i.e., greater positivity for the individual experiencing greater happiness) or might they also stimulate better outcomes in a variety of ways—for individuals, those close to them, and societies? If increases in happiness were only for greater pleasantness of an individual's life, the effort expended by the individual might be deemed selfish by some. However, if greater happiness caused greater success for the individual in other ways, and better lives for those around them, then pursuing greater happiness could be seen as a public good. In contrast, another possibility is that pursuing happiness could undermine well-being by directing attention inward rather than outward to things that may promote happiness (e.g., relationships or nature). Thus, researchers set out to explore what good happiness can bring and whether intentional happiness pursuit could be detrimental.

### **Happiness and Success**

The broaden-and-build theory of positive emotions sets out a strong, empirically supported, argument that positive emotions promote many desirable outcomes beyond simply feeling good (Fredrickson, 1998, 2001, 2013). As opposed to negative emotions, which are meant to narrow attention to handle an immediate threat, Fredrickson argues that positive emotions signal to people that they are safe to explore and expand their horizons. In a positive state, people are free to be curious and engage in approach-oriented behaviors like meeting new people or learning something new that can potentially affect their lives positively in the long-term via reciprocal processes (i.e., upward spirals).

Thus, although positive states are fleeting, they broaden people's thinking and attention, allowing them to take steps that might build durable cognitive, social, physical, or psychological resources (Fredrickson, Cohn, Coffey, Pek, & Finkel, 2008). In one empirical test of this process, participants engaged in a loving-kindness meditation training which boosted positive emotions, which in turn improved important resources (e.g., mindfulness, social support, physical health; Fredrickson et al., 2008). These personal resources also predicted greater life satisfaction, which will theoretically feed back into greater positive emotions over time, setting Fredrickson's proposed upward spiral into effect. Thus, positive emotions provide an emotional backdrop that allows people to improve themselves in a variety of ways.

Corroborating the findings from the broaden-and-build theory, a meta-analysis of over 300 findings sought to answer whether happiness leads to success (Lyubomirsky, King, & Diener, 2005; see also De Neve, Diener, Tay, & Xuereb, 2013). The findings overwhelmingly supported that happiness was not only related to success cross-sectionally, but also preceded success in longitudinal studies, and caused

success when manipulated in the laboratory. The authors included many different indicators of success across work, physical health, and social domains, finding that happy people performed better at work (both in terms of productivity and social relationships), were physically healthier, had better relationships with others, and were more likely to engage in community service. Collectively, these findings point to happiness having benefits for the individual beyond simply feeling good, and also benefits for the people close to them and their communities.

### **Potential Negative Consequences of Happiness Pursuit**

Although successful increases in one's happiness can hold benefits for the individual and their community, it is still possible that actively pursuing happiness could be detrimental for some. Research has demonstrated that people who value happiness may actually be less happy in positive situations because they are more likely to feel disappointed if a situation does not match their high happiness expectations (Mauss, Tamir, Anderson, & Savino, 2011). Indeed, in one study, participants who valued happiness relatively more, and were under relatively low life stress, reported less happiness than their counterparts who either did not value happiness as much or did value happiness, but were under relatively higher stress (Mauss et al., 2011). Furthermore, in a separate paper, Mauss and colleagues (2012) found that the more people valued happiness, the lonelier they felt. Thus, the authors concluded that valuing happiness can have some surprisingly negative consequences.

Importantly, Mauss and colleagues' (2011) measure of valuing happiness does not explicitly measure the pursuit of happiness, but rather valuing happiness to an extreme degree. Questions include participants' level of agreement with statements like "How happy I am at any given moment says a lot about how worthwhile my life is," "If I don't feel happy, maybe there is something wrong with me," and "I am concerned about my happiness even when I feel happy." Thus, their measure of valuing happiness may be tapping into an unrealistic and possibly pathological valuing of happiness. Indeed, the valuing happiness scale is related to depression and bipolar disorder (Ford, Mauss, & Gruber, 2015; Ford, Shallcross, Mauss, Floerke, & Gruber, 2014). In a test of the psychometric properties of the valuing happiness scale, Luhmann, Necka, Schönbrodt, and Hawkey (2016) found that only two of the items are meaningfully related to lower well-being: "If I don't feel happy, maybe there is something wrong with me," and "I am concerned about my happiness even when I feel happy." These items demonstrate a worry about being unhappy that undermines people's happiness. Luhmann and colleagues (2016) found that the rest of the items either did not relate to well-being or related positively, suggesting that only the excessive focus on happiness or fear of unhappiness is related to lower well-being.

In contrast, Catalino, Algoe, and Fredrickson (2014) created the prioritizing positivity scale which more directly measures the intentional pursuit of happiness. Specifically, they assess the degree to which people organize their daily lives around opportunities for positive emotions by asking participants to rate how much they agree with statements like "A priority for me is experiencing happiness in everyday life," "What I decide to do with my time outside of work is influenced by how much I might experience positive emotions," and "My major decisions in life (e.g., the job I choose, the house I buy) are influenced by how much I might experience positive emotions." This type of prioritizing positivity is related to higher positive emotions, lower depression, and greater resources like self-compassion and ego-resilience (Catalino et al., 2014). Importantly, Catalino and colleagues (2014) also explored Mauss and colleagues (2011) valuing happiness scale and found that, although prioritizing positivity and valuing happiness were related ( $r = .25$ ), they had distinct relationships with positive affect, negative affect, and life satisfaction. Specifically, as mentioned, prioritizing positivity was related to higher well-being and, replicating Mauss and colleagues (2011) work, valuing happiness was negatively related to well-being.

### **People Should Pursue Happiness (Thoughtfully)**

In sum, organizing your life around increased happiness is not inherently a bad thing (as evidenced by the prioritizing positivity findings), but if you take it too far, it could have detrimental outcomes (as evidenced by the valuing happiness findings). Other work supports the idea that the type of intentional activities people engage in to become happier has implications on whether their happiness pursuit will be successful. Specifically, if people are going to pursue happiness, they need to do it in ways that feel authentic to them (i.e., person-activity fit; Lyubomirsky & Layous, 2013). In addition, most of the work on the intentional pursuit of happiness has included relatively mentally healthy samples (i.e., not clinical samples) and people who are having more severe issues would likely be better off with the professional help of a clinician than with a self-guided pursuit of happiness (see Sin & Lyubomirsky, 2009). Lastly, how happy one may seek to become may depend on their goals. For example, people at the very highest level of happiness have the most satisfying relationships and engage in the most community service, but those who are happy, but just below the highest level, are the most successful at work and school and more politically engaged, suggesting that they need a little room to grow to keep that drive (Oishi, Diener, & Lucas, 2007).

## How Can People Effectively Increase Their Happiness?

After Lyubomirsky, Sheldon, and Schkade's (2005) seminal paper outlining the persuasive argument that happiness can change, research on happiness interventions exploded. Early pioneers had already provided some evidence that happiness could change in response to certain activities (Fordyce, 1977, 1983) and gratitude interventions as a path to happiness were just taking off in the literature (Emmons & McCullough, 2003), but Lyubomirsky and colleagues' (2005) paper provided the theoretical basis for research on happiness interventions that helped the field expand. Given the processes of hedonic adaptation outlined earlier, Lyubomirsky and colleagues (2005) stipulated that the best route to sustained happiness change would be through intentional and effortful activities rather than changing life circumstances. Of course the processes of hedonic adaptation can apply to intentional activities as well as to life circumstances, but intentional activities lend themselves more readily to variety that can help sustain positive changes in well-being (Sheldon & Lyubomirsky, 2006).

### Positive Psychological Interventions

Positive Psychological Intervention (PPI) is an umbrella term used to describe a treatment method or activity designed to foster happiness. PPIs can be directed by a therapist or coach in an individual or group session or self-guided. Lyubomirsky and Layous (2013) have also used the term positive activity intervention (PAI) to exclusively focus on the self-guided type of PPI or simply "positive activity" to refer to happiness-increasing activities practiced in daily life (i.e., not as part of a randomized controlled intervention). Before testing PPIs in randomly controlled interventions, researchers sought to explore the behaviors of happy people to answer the question—what do happy people do that might reinforce their happiness? For example, across multiple studies, researchers found that happy people are grateful (McCullough, Emmons, & Tsang, 2002), prosocial (Krueger, Hicks, & McGue, 2001), and optimistic (Lucas, Diener, & Suh, 1996). Thus, researchers started designing studies to explore whether the intentional practice of gratitude (e.g., writing a gratitude letter or counting one's blessings), prosociality (performing acts of kindness), or optimism (visualizing one's best possible self) could boost happiness. Research has now accumulated to demonstrate that intentionally engaging in the activities of happy people boosts well-being (Bolier et al., 2013; Sin & Lyubomirsky, 2009).

PPIs can be viewed as a type of emotion regulation strategy in which one seeks to upregulate positive emotions. Thus, Quoidbach, Mikolajczak, and Gross (2015) wrote a helpful review of positive interventions, integrating the different types of PPIs with the extant emotional regulation literature by categorizing them according to the process model of emotion regulation (i.e., into the strategies of situation selection, situation modification, attentional deployment, cognitive change, and response modulation; Gross, 1998) and demonstrating how they may be applied before, during, and after positive emotional events to enhance their effect. In addition, the review covered which PPIs have the most empirical support and during what time frame, pointing toward areas of opportunity for further research within the field.

### How Positive Psychological Interventions Increase Well-Being

As described by the positive activity model (Lyubomirsky & Layous, 2013; see also Layous & Lyubomirsky, 2014), PPIs increase global well-being via increases in positive emotions, positive thoughts, positive behaviors, and psychological need satisfaction (i.e., autonomy, competence, and relatedness; Ryan & Deci, 2000). Although much research is still needed to support these mechanisms, they do have some preliminary support. For example, a loving-kindness meditation intervention boosted positive emotions, which in turn improved personal resources such as social relationships and physical health, which in turn improved life satisfaction (Fredrickson et al., 2008). In another study, people who expressed gratitude and optimism rated their weekly experiences as more satisfying over time even though independent coders rated them as consistently satisfying over time (Dickerhoof, 2007). Thus, people engaging in the PPI construed the events in their lives more positively over time even though they did not objectively change. PPIs can also stimulate the performance of positive behaviors unrelated to the specific PPI. For example, in one study, participants assigned to record their blessings (i.e., express gratitude) engaged in more exercise over time than those assigned to record their hassles (Emmons & McCullough, 2003). Finally, students assigned to imagine their time as scarce in their college town (a savoring manipulation) reported increases in psychological need satisfaction, which in turn predicted increases in subjective well-being (Layous, Kurtz, Chancellor, & Lyubomirsky, 2017). Thus, the positive activity model has preliminary support, but much research is needed to explore when and under what conditions these interventions may work, as well as other mechanisms that may be at play.

### Moderators of the Success of Positive Psychology Interventions

The positive activity model (Lyubomirsky & Layous, 2013) posits some features of the PPI itself that may increase its efficacy, some features of the person engaging in the PPI that might make them more

likely to benefit, and finally, the importance of matching the activity to the person (i.e., person-activity fit) to optimize successful increases in happiness. For example, research has demonstrated that timing and dosage of a PPI can affect its efficacy (Lyubomirsky, Sheldon, et al., 2005), as can the variety with which it is practiced (Sheldon, Boehm, & Lyubomirsky, 2012), and whether it is other- or self-focused (Nelson, Layous, Cole, & Lyubomirsky, 2016). For example, participants prompted to perform kind acts for others or for the world reported higher levels of flourishing than those who were prompted to be kind to themselves (Nelson et al., 2016).

Research has also revealed that people who are more motivated to engage in PPIs and put more effort into their practice have greater increases in well-being (e.g., Lyubomirsky, Dickerhoof, Boehm, & Sheldon, 2011). In one study, people who self-selected into a happiness intervention study reported greater gains in well-being over the 8-week intervention period than those who self-selected to “test cognitive exercises” (Lyubomirsky et al., 2011). These gains were the highest for self-selected participants who were assigned to the intervention conditions (i.e., gratitude and optimism) versus the control condition indicating that participants not only need motivation to improve their happiness, but also an appropriate PPI (i.e., a will and a way; Lyubomirsky et al., 2011; see also Sin & Lyubomirsky, 2009). Lyubomirsky and colleagues (2011) also found that participants who put more effort into completing the intervention conditions, but not the control condition, saw greater increases in well-being. Thus, participant motivation and effort, coupled with the efficacy of the activity, predict greater increases in well-being.

Although studying main effects of certain features of the activity or happiness-seeker on intervention efficacy provides valuable information, perhaps most importantly, researchers should be exploring the optimal fit between the activity and the person (i.e., person-activity fit). Indeed, in one study, people who indicated that they enjoyed the activity, benefitted from it, and did not find it difficult, were more likely to complete the activity and showed greater boosts in well-being (Schueller, 2010). Similarly, in one study, people who responded that they liked the exercise, benefitted from it, completed the exercise as instructed, showed early reactivity (i.e., change in well-being during the one-week intervention period), and continued to practice the activity post-intervention, were more likely to sustain well-being benefits out to the 3.5 year follow-up (Proyer, Wellenzohn, Gander, & Rush, 2015). Corroborating this finding, another study found that people who showed early reactivity to the intervention were more likely to continue practicing the intervention after the intervention period had ended, which was predictive of sustained increases in positive emotions at a 15-month follow-up (Cohn & Fredrickson, 2010). These researchers took their participants’ preference for the activity, early reactivity, and continued practice post-intervention to be evidence of person-activity fit. In addition, evidence suggests that people show a pattern of preference toward certain activities (e.g., activities that focus on the present versus the past; Schueller, 2010), and thus researchers may be able to look for these fit patterns and assign PPIs accordingly. Much research needed regarding this more fine-tuned administration of PPIs, but early evidence suggests that better matching of person and activity can stimulate long-term rewards in well-being.

### **Future Directions in Research on Intentional Happiness Pursuit**

As PPIs become widely used, it becomes even more important to understand their boundary conditions, including how to maximize the efficacy of the activity and how to ensure that people are not engaging in an activity that does not fit them and their needs. For example, some evidence suggests that specific types of PPIs do not work equally well across cultures. In one study, both gratitude and kindness activities boosted well-being over the control group when exploring across the U.S. and South Korean samples. However, the effect of the gratitude condition was moderated by culture such that people in the U.S. benefited from practicing gratitude, but people in South Korea did not (Layous, Lee, Choi, & Lyubomirsky, 2013). The researchers reasoned that maybe gratitude was not additionally beneficial for South Koreans because they had already expressed gratitude and obtained some sort of well-being benefit or perhaps because the gratitude exercise was a reminder that they had put someone out and perhaps upset a delicate social harmony that is extremely valued in collectivistic societies. Furthermore, it is quite possible that the appeal of happiness-increasing activities is a western—or even a U.S.—notion as not all cultures pursue positivity like people in the U.S. (e.g., Tsai, 2007, but see Diener, 2000). Thus, future research needs to explore culture-activity fit in the pursuit of person-activity fit and also continue to explore how actively different cultures intentionally pursue happiness.

Another person-activity fit issue includes whether people with certain levels of well-being might actually be harmed by practicing PPIs. Evidence suggests that PPIs can decrease depressive symptoms (Fava & Ruini, 2003; Seligman, Rashid, & Parks, 2006; Sin & Lyubomirsky, 2009), but one study found that listening to neutral music (a distracter activity) was more effective in decreasing depressive symptoms than a gratitude letter writing activity among mildly depressed participants (Sin, Della Porta, & Lyubomirsky, 2011). Importantly, many of the self-guided PPIs have not been tested in clinical samples. Given that approximately half of happiness-seekers on the internet would qualify as clinically depressed

(Parks, Della Porta, Pierce, Zilca, & Lyubomirsky, 2012), more research needs to investigate whether there are certain types of activities that could backfire among clinical samples. Likewise, given that most people are above the midpoint on happiness (Diener, Kanazawa, Suh, & Oishi, 2015), it may be futile for some people to pursue greater happiness if they are already at the top of the scale. Furthermore, depending on someone's goals (e.g., political or career) they may benefit from being slightly less happy than their most happy peers (e.g., Oishi et al., 2007)

In addition, the sustainability of intentional happiness change needs to continue to be explored. As researchers in the field of psychology well know, behavior change is difficult and making intentional behavior change habitual requires great effort and persistence (Lally, van Jaarsveld, Potts, & Wardle, 2010; Wood & Neal, 2007). Evidence across multiple studies suggests that well-being at a three to six month follow-up is still significantly higher in the intervention group than the control group (Bolier et al., 2013), but few notable exceptions explore a lengthier follow-up (e.g., Cohn & Fredrickson, 2010; Proyer et al., 2015). Proyer and colleagues (2015) have the longest follow-up of a PPI to my knowledge (3.5 years) and unfortunately, they did not have enough retained participants in the control group to make between-condition comparisons. That said, they were able to explore within-intervention components that sustained effects (e.g., continued practice, early reactivity, enjoyment of the intervention, and effort) and future researchers would do well to continue exploring what factors promote sustained happiness after the inevitable completion of the prescribed intervention period. For example, possibly the happiness intervention teaches the participant a happiness-enhancing skill (e.g., keeping a gratitude journal), and the continued practice of that skill is what sustains boosts in well-being (see Kushlev et al., 2017).

Finally, studies are starting to explore how changes in well-being as a result of PPIs affect other downstream consequences like social relationships, productivity, and physical health (e.g., Fredrickson et al., 2008; Moskowitz et al., 2017) and more such studies are needed to demonstrate not only that happiness can be increased, but that increasing happiness has other positive benefits. One example is the Enduring Happiness and Continued Self-Enhancement (ENHANCE) program, a comprehensive intervention program that seeks to develop multiple happiness-enhancing skills to boost happiness and, in turn, trigger positive changes in other domains of life (e.g., relationships and physical health; Kushlev et al., 2017). A randomized controlled trial of ENHANCE is currently under way and preliminary results are quite promising regarding ENHANCE's ability to improve well-being and stimulate other positive benefits.

## Conclusion

Borrowing another quote from the Dalai Lama, the research can be summarized as follows: "Although bringing about inner change is difficult, it is absolutely worthwhile to try" (His Holiness the 14<sup>th</sup> Dalai Lama tweeted this on May 30, 2017). As Lykken and Tellegen (1996) noted, it is undoubtedly easier for people who are born relatively happier than others to engage in behaviors that reinforce their happiness. That said, over the past two decades, a great deal of evidence has accumulated demonstrating that people can increase their own happiness through intentional and effortful practices like expressing gratitude and performing kind acts. Thus, although challenging, increasing one's happiness is possible and the science of well-being is continually advancing to offer people more efficacious ways of doing so.

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