The Science of Self-Help

Translating Positive Psychology Research Into Increased Individual Happiness

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Abstract. Positive psychology aims to understand the positive side of human functioning, expanding research on positive behaviors, cognitions, emotions, and character traits. The findings of this research have highlighted strategies (e.g., savoring, gratitude, kindness, social relationships, and hope and meaning) that, when practiced, lead to increases in individual happiness. Researchers and practitioners have translated these strategies into effective interventions that can be disseminated directly to individuals, allowing them to actively pursue greater levels of happiness. We present a summary of the current state of positive psychological interventions as they pertain to self-help. A major focus in the application of positive psychological interventions for self-help is dissemination — ensuring that those interested have access to evidence-based strategies to increase their happiness. The future of self-help involves spreading these practices through classes, workshops, books, and increasingly prevalent technologies such as Internet sites and mobile applications. We outline unique concerns related to providing self-help in the absence of professional support including motivation and engagement, variety and flexibility, and person-activity fit. As positive psychology has developed a host of evidence-based practices, the next stage of research requires implementing these strategies in ways to support their use in real-world contexts.

Keywords: positive psychology, self-help, happiness, evidence-based practices, dissemination

A recent initiative by Martin Seligman, the founder of positive psychology, aims to increase global well-being, with the goal being 51% of the world population "flourishing" by 2051 (Seligman, 2011). Considerable evidence supports that effective interventions exist to help achieve this goal (Seligman, 2007; Sin & Lyubomirsky, 2009). Many of these interventions, however, use resources (such as therapists' and coaches' time) that can only benefit one person at a time (Muñoz, 2010). Promoting the flourishing of 51% of the world population by 2051, however, requires developing resources that can aid multiple people without additional investment of professional time. Indeed, psychological researchers have long acknowledged that psychosocial interventions can be disseminated via various less traditional approaches and this notion has been echoed in recent calls for the translation of in-person psychosocial interventions into new, more innovative, and cost-effective modes of delivery (Christensen, Miller, & Muñoz, 1978; Kazdin & Blase, 2011).

One mode is to provide resources directly to those who are interested without professional assistance, known simply as self-help. Although evidence supports that self-help can be efficacious (Gregory, Canning, Lee, & Wise, 2004), a majority of the current self-help resources are not based on scientifically supported principles (e.g., see Abroms, Padmanabhan, Thaweethai, & Phillips, 2011; McKendree-Smith, Floyd, & Scogin, 2003) or have not been evaluated (Anderson et al., 2005). Thus, happiness-seekers have to sort through an array of resources to try to find evidence-based techniques. With regard to increasing happiness, many people use a "do-it-yourself" approach, drawing on ancient wisdom, scientific evidence, and lessons from popular approaches without professional guidance (e.g., Rubin, 2009). Although this may work for some people, others might need more guidance, and it is thus important to help those interested in pursuing happiness to identify what is most likely to work based on the current scientific evidence.

This paper aims to provide the current state of research in increasing happiness especially as it pertains to self-help in order to help scientists and therapists interested in contributing to the study and application of positive psychology for self-help purposes.

We begin by briefly defining happiness and discussing its mutability, and then turn to defining a positive psychological intervention (hereafter: PPI) and to describing the current evidence base for a selection of evidence-based PPIs. We discuss dissemination efforts for providing positive psychology as self-help and highlight specific concerns related to developing self-help interventions based on positive psychology principles. We close with future directions and conclusions for the field.

What Is Happiness and Can It Change?

The predominant conception of happiness in Western cultures is that happiness is characterized by positive subjective appraisals and feelings. This conception, deemed the hedonic approach, preferences emotions and subjective evaluations rather than character, achievements, or objective life circumstances (which is deemed a eudaimonic approach, see Ryan & Deci, 2001, for a review). Thus, one is happy if he or she says so. These subjective states include two key components: (1) a cognitive appraisal that one's life is good, and (2) reports of frequently experiencing positive emotions and infrequently experiencing negative emotions (Diener, 2000).[1] Accordingly, increasing happiness is a combination of helping people to view the circumstances of their lives more positively, as well as to experience more positive emotions and fewer negative emotions.

Although whether individual happiness could increase used to be a major debate (for a review, see Lyubomirsky, Sheldon, & Schkade, 2005), research throughout the past decade has provided substantial evidence that it can (Boehm & Lyubomirsky, 2009; Diener, Lucas, & Scollon, 2006; Seligman, Steen, Park, & Peterson, 2005). Furthermore, research findings overwhelmingly support that the best way to do so is to change what one does to be more aligned with the behaviors of happy people (see Lyubomirsky, 2001). Self-help should therefore teach these scientifically supported behaviors to help people increase their own happiness.

It is worth noting that this perspective is largely atheoretical; it says nothing about the mechanism by which PPIs increase happiness. The scientific study of PPIs is still a rather young area of inquiry and studies addressing the mechanisms and processes of change for these interventions are only recently being conducted (see Lyubomirsky & Layous, 2013). Early studies, such as Fordyce (1977,

1983), tried a number of activities, saw what worked, then hoped future research would delve deeper to uncover the whys and hows. Some theories have since emerged to help explain the underlying mechanisms that drive the efficacy of PPIs. For example, Fredrickson's Broaden and Build Model posits that deliberately increasing positive emotions leads to greater resources (e.g., creativity, resilience, and openness to new experiences), which in turn can spur individuals to engage in behaviors that further promote well-being (Fredrickson, 2001). This cycle results in a positive feedback loop that might improve cognitive appraisals, positive emotions, and possibly even life circumstances. While not specific to any particular PPI, the model provides a solid empirical justification for the goal of increasing happiness and describes a cascade of benefits that is empirically testable (see Fredrickson, Cohn, Coffey, Pek, & Finkel, 2008). It has only been in very recent years, however, that questions of mechanisms and potential moderators of particular PPIs' effectiveness have started to receive empirical attention (see Lyubomirsky & Layous, 2013). Rather than discussing these issues throughout, especially given that many studies we review do not raise them, we return to them briefly at the end of the paper.

Defining Positive Psychological Interventions

Behaviors related to happiness have been translated into several PPIs. A handful of papers have aimed to define the essential features of a PPI, and while an in-depth discussion is beyond the scope of this paper, we provide an overview in order to make clear how we selected what to include and what not to include in our literature review below and reference seminal papers on the topic for those who want a more detailed discussion. According to Sin and Lyubomirsky (2009), PPIs are interventions "aimed at increasing positive feelings, positive behaviors, or positive cognitions as opposed to ameliorating pathology or fixing negative thoughts of maladaptive behavior patterns" (p. 469). Sin and Lyubomirsky (2009) further indicate that a PPI must also be designed to increase well-being *in the long term*. Thus, they exclude mood induction studies that are inherently designed to improve mood for only a brief period. Bolier and colleagues (2013) started with the same definition as Sin and Lyubomirsky (2009), but further specified that in order to qualify as a PPI, the intervention must "have been explicitly developed with the theoretical tradition of positive psychology (usually reported in the introduction section of the article)" (p. 3). This criterion excludes interventions such as mindfulness meditation or physical exercise interventions, which while very consistent with positive psychology, are not typically self-identified as PPIs. We believe that such a criterion is intended to

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[1]   We acknowledge that other conceptualizations of happiness exist, but an in-depth discussion of the nature of happiness is far outside the scope of this paper. Diener's model is by far the most predominant in positive psychology research especially research that pertains to interventions, and therefore it is our focus.

separate PPIs that work through known mechanisms related to well-being from those that use different theoretical models. As previously stated, however, theoretical models and known mechanisms within research on PPIs are for the most part lacking at this point. Furthermore, such a definition excludes any work completed within domains clearly aligned with positive psychology that predate the founding of the field. Thus, although we agree with the spirit of this criterion, we disagree with its use. The most comprehensive and exclusive definition of a PPI, however, is presented by Parks and Biswas-Diener (2013) – it encompasses Sin and Lyubomirsky's (2009) criteria, and further posits that an intervention can only be deemed a PPI if evidence exists that it successfully increases positive feelings, behaviors, and/or cognitions. Therefore, while many interventions could be potentially considered PPIs, they may not qualify as a PPI due to the lack of an empirical basis. Flow theory, for example, argues that if certain conditions are met, an individual will experience more flow and will ultimately become happier, but to our knowledge, no evidence exists that deliberately creating these conditions can induce flow and thus increase happiness. Creating ideal conditions for flow, then, while plausible-sounding, would not currently be considered a PPI due to a lack of empirical basis as an intervention.

Based upon our review of the literature, the resulting interventions can be classified into five categories: (1) savoring experiences and sensations, (2) cultivating (and sometimes expressing) gratitude, (3) engaging in kind acts, (4) promoting positive relationship processes, and (5) pursuing hope and meaning. Thus, these categories are a description of the evidence-base rather than a theoretical proposal of what could exist. We do not include strengths, a prominent research area within positive psychology, as a category itself because each of the identified categories corresponds to specific strengths and research suggests that mere strength-identification is an insufficient strategy to promote well-being (Biswas-Diener, Kashdan, & Minhas, 2011; Louis, 2011). From this research, it appears as though strength-identification may not be valuable above and beyond the specific strategies it inspires. In the context of self-help, thus, we focus on these specific strategies as included in the categories above.

It is also important to note that whether or not a specific activity will actually lead to increased happiness is related to additional factors of the activity (e.g., dosage and variety) or the person (e.g., personality, strengths, and motivation); we will return to some of these issues at the end of the paper, as they provide additional layers of complexity to the somewhat simple story that disseminating an effective intervention leads to increased happiness.

Evidence for Positive Psychological Interventions

A considerable evidence base for PPIs exists. Two recently published meta-analyses suggest that on average PPIs lead to small-to-moderate increases in well-being and decreases in depressive symptoms (Bolier et al., 2013; Sin & Lyubomirsky, 2009). We review specific studies and PPIs below, but rather than present effect sizes for each study, we believe the effect sizes found in these meta-analyses provide a more useful summary of the field and the degree to which well-being might change over time in response to PPIs. Sin and Lyubomirsky (2009) found average increases in well-being of $r = .29$ and decreases in depressive symptoms of $r = .31$. Bolier and colleagues (2013), with their more restricted definition and fewer studies, however, found smaller effects of $d = 0.34$ for measures of subjective well-being, $d = 0.20$ for psychological well-being, and $d = 0.23$ for depressive symptoms. One reason we believe that it is useful to view these summary effect sizes rather than the effect sizes from individual studies is that characteristics of the application of the interventions were more predictive of differences in the effect sizes obtained than the specific techniques used. Longer intervention duration, greater degree of participant self-selection, and high level of initial participant distress (i.e., depression or other psychosocial problems) all corresponded to larger effect sizes. Most relevant to this review, however, is that supported interventions were more efficacious than self-help. We return to issues related to the widespread implementation of self-help after our review of specific PPI strategies. Overall, however, it appears that one can reasonably expect small but significant and lasting changes in well-being resulting from engaging in PPIs and even smaller effects when doing so on one's own. We now turn to a review and description of the specific PPIs that align with the definition of PPIs we offered.

Positive Psychology Interventions

Savoring

Savoring aims to intensify (through focused awareness) and prolong (through elaboration skills) momentary pleasurable experiences (Peterson, 2006). The concept of savoring is derived from one of the most basic activities in mindfulness meditation wherein one deliberately and systematically attends to every aspect of an experience (Kabat-Zinn, 2009). While easiest to apply to a sensory experience, such as eating, savoring can be used with any type of experience, including memories. Individuals who engage in savoring more often have higher levels of happiness, life satisfaction, optimism, and perceived control, and lower levels of depression (Bryant, 2003). Several factors have been proposed to increase the savoring of experiences including savoring in the presence of others, writing about the experience, considering counterfactuals, incorporating humor, focusing on the meaning of the activity, and maintaining an awareness of the fleeting nature of the experience (Bryant & Veroff, 2007). Savoring interventions fall into two categories: (1) those that teach and encourage the practice of the general principles of savoring and (2) those that teach a specific savoring skill and encourage the use of that skill.

Teaching a wide range of savoring strategies and encouraging the application of these strategies in one's life is an effective way to promote well-being. For example, Schueller (2010) instructed participants to reflect daily for at least 2–3 min on two pleasurable experiences and to make the pleasure last as long as possible. For example, when drinking hot chocolate, one might prolong that experience by focusing first on the various features of the whipped cream (i.e., the taste, texture, and temperature), then on the drink itself, and lastly, on the interplay of those flavors, textures, and temperatures together. Participants who engaged in this simple exercise reported higher levels of happiness one week later. More structured instruction in savoring also appears to contribute to well-being. An intervention taught participants savoring strategies through a 20-min audio recording and then instructed them to brainstorm ways they could have savored three positive activities they experienced within the past week. Participants were instructed to use these skills throughout the week and track the number of times they savored events in a savoring log (Hurley & Kwon, 2012). Participants who completed this savoring intervention experienced significant reductions in negative emotions but no significant boosts in positive emotions. Thus it might be that savoring serves to buffer against negative life events.

Another way to promote savoring is to teach specific strategies to enhance a person's focus and recall of pleasant aspects in one's environment and life. In "mindful photography," people spend at least 15 min daily taking photographs that are creative, beautiful, and hold personal meaning (Kurtz & Lyubomirsky, 2012). Participants who took mindful photographs for a two-week period reported significantly more positive mood compared to participants who took photographs but received no specific instruction to the types of photographs to take. Similar strategies have been used for savoring positive memories, referred to as reminiscence (Bryant, Smart, & King, 2005). Reminiscence has been used particularly for older populations with positive benefits on life satisfaction (e.g., Cook, 1998).

Gratitude

Gratitude refers to the emotional response accompanying the acknowledgment that some outside force is responsible for something good that has happened to oneself. Gratitude interventions include both grateful reflection and gratitude-motivated activities. Both have demonstrated efficacy at increasing well-being including increasing positive emotions, reducing depressive symptoms, and improving physical health (Wood, Froh, & Geraghty, 2010). Grateful reflection, exemplified by gratitude journaling, refers to listing things for which one is grateful. In gratitude journaling, people write down what they are thankful for, most often completing this in private. Some instructions emphasize the importance of writing both the thing that one is grateful for as well as the reason why that thing happened (Seligman et al., 2005), however, benefits have been found with only noting the events (Emmons & McCullough, 2003). Gratitude-motivated activities encourage public expressions of gratitude. In a direct comparison

of expressing gratitude versus merely promoting positive thoughts toward a relationship partner, it was found that grateful expressions were considerably more effective at enhancing the strength of the relationship (Lambert, Clark, Durtschi, Fincham, & Graham, 2010). The PPI known as the "gratitude letter" instructs an individual to express gratitude to another person that he or she has never had a proper chance to thank (Seligman, 2002; Seligman et al., 2005). The instructions emphasize the importance of conducting a gratitude visit (i.e., a face-to-face meeting) after writing the letter; however, studies suggest that this is not the essential component and that simply writing a letter may also boost well-being, albeit perhaps to a slightly lesser degree (Boehm, Lyubomirsky, & Sheldon, 2011; Lyubomirsky, Dickerhoof, Boehm, & Sheldon, 2011; Schueller, 2012).

Kindness

Common wisdom states that one of the most reliable ways to feel better is to do good for someone else. Indeed, happier people tend to act more kindly (Dunn, Aknin, & Norton, 2008), and performing kind acts, in turn, boosts happiness (Buchanan & Bardi, 2010). Furthermore, happiness and kindness appear to exist in some kind of "positive feedback loop" such that one encourages the other (Aknin, Dunn, & Norton, 2012). In this way, acts of kindness interact with gratitude to create reciprocity between givers and recipients. Even more interesting, reflecting on one's acts of kindness, even without deliberately increasing the frequency of kind acts, also increases happiness (Otake, Shimai, Tanaka-Matsumi, Otsui, & Fredrickson, 2006).

Kindness research has examined a variety of kind acts, ranging from brief, cost-free behaviors, such as holding the door or complimenting a stranger to behaviors that come at a personal cost, such as buying a gift or helping a colleague with a project at work. One type of kind act that has received particular research attention is prosocial spending – that is, spending money on other people. Compared to spending money on oneself, spending money on others leads to increases in happiness (Dunn et al., 2008). This line of research suggests that while, on average, money does not "buy" happiness, using money to promote kindness provides an important exception (see Howell, Pchelin, & Iyer, 2012). Even interventions, however, that promote kindness more generally appear to lead to significant boosts in well-being. In a study by Lyubomirsky, Tkach, and Sheldon (2004) undergraduate students who performed five kind acts weekly for 6 weeks experienced significant increases in well-being compared to a no-treatment control group, but only if these kind acts were performed all in one day rather than spread throughout the week.

Promoting Positive Relationship Processes

In his three-word summary of positive psychology, "Other people matter," Chris Peterson (2006) emphasizes the

centrality of positive relationships for happiness. Indeed, robust findings support this claim (e.g., Diener & Seligman, 2002; Myers & Diener, 1995). In fact, relationships are so central to happiness that one analysis of the happiest people led to the conclusion that "good social relationships might be a necessary condition for high happiness" (Diener & Seligman, 2002, p. 82). Thus, increasing the amount of social contact a person has and improving the quality of one's interpersonal relationships are both strong pathways to promoting happiness.

One intervention designed to improve a positive process in one's social interactions is active-constructive responding. This intervention draws on research that noted that individuals respond to good news in either an active versus passive and constructive versus destructive manner and that couples that use more active-constructive responding have more satisfying and stable relationships (Gable, Gonzaga, & Strachman, 2006; Gable, Reis, Impett, & Asher, 2004). Active-constructive responding means reacting to the good news with authentic displays of excitement and expanding the discussion of the event through active questioning. For example, if one's spouse received a job promotion, an active-constructive response would be "That is great news! I am so happy for you! We should go out to dinner to celebrate. Tell me exactly what happened when you found out." In many ways, this is similar to savoring as it serves to intensify and elongate a positive experience through encouraging, retelling, and re-experiencing, but is circumscribed to the interpersonal domain and the sharing of positive news. Instruction in active-constructive responding has been provided as a standalone exercise (Schueller, 2010) and incorporated into programs such as Group Positive Psychotherapy (Seligman et al., 2006) and the Masters of Resilience Training (MRT) Program (Reivich, Seligman, & McBride, 2011). Although, active-constructive responding is well liked, it has limited support for its efficacy as a standalone exercise. More research needs to assess whether it can increase its impact on happiness when delivered experimentally.

Creating Meaning

Various conceptualizations of meaning in life exist, encompassing an understanding of relationships among people, things, and events to a general sense that one's life is significant (see, Steger, 2009, for a review). Despite these various definitions, empirical findings have consistently indicated that meaning in life predicts well-being, happiness, and life satisfaction (Steger, Oishi, & Kashdan, 2009). Thus, interventions aimed at facilitating the construction of meaning and purpose can contribute to individual happiness.

One way that PPIs seek to promote meaning is through expressive writing paradigms. Life narratives have a powerful influence over people's construction of meaning and their individual happiness (McAdams, Reynolds, Lewis, Patten, & Bowman, 2001). The cognitive change theory of expressive writing posits that writing can enhance well-being and emotional adjustment through facilitating the construction of a coherent and meaningful narrative of the event (Pennebaker & Seagal, 1999). In the basic paradigm underlying this research, people write about a past trauma on consecutive days with instructions to facilitate specific styles of expression; participants instructed to include both the facts of the trauma and their emotions experienced fewer illness-related doctor's visits in the weeks to follow compared to other styles of writing (Pennebaker & Beall, 1986). While the expressive writing paradigm is not itself a PPI, research examining the effects of writing expressively about positive events is, and has found similar benefits (e.g., Burton & King, 2009). Expressive writing is a useful tool for self-help because it can be done independently with minimal instruction and has demonstrated benefits even when the writing is repeated over several days. An important caveat is the same style of writing might not be useful for both positive and negative events. In a series of studies, Lyubomirsky, Sousa, and Dickerhoof (2006) found that analyzing events, facilitated through writing, improved well-being and health with negative but not positive events. For positive events, on the other hand, participants benefited more from talking through the event aloud or adopting an approach where they replayed but did not analyze the event.

Another way in which meaning can be promoted is through increasing hope for the future – and more specifically, the belief that one's goals are within one's reach – which Snyder (2002) proposed is a central component of well-being. The more abstract idea of pursuing hope has typically been operationalized as the formulation and pursuit of personally meaningful goals, which according to Self-Determination Theory contributes substantially to one's happiness (Ryan & Deci, 2001). Writing about life goals, for instance, can bring about greater clarity and awareness to those goals (King, 2001). Adapted from King (2001), the "Best Possible Self" intervention increases focus on one's life goals by requiring people to visualize and write about their "ideal future life," in as much detail as possible. Participants who completed this writing assignment over a 4-week period experienced increases in positive emotions and displayed more interest and higher degrees of motivation compared with a control group who merely wrote about life details (Sheldon & Lyubomirsky, 2006). It is worth noting that although this exercise is useful at bringing clarity and awareness of goals, it does not provide support at putting those goals into action.

Other research has demonstrated that teaching people goal setting and planning skills is an effective way to increase happiness (e.g., Cheavens, Feldman, Gum, Michael, & Snyder, 2006; MacLeod, Coates, & Hetherton, 2008). Goal setting and planning relate to the other major component of Snyder's (2002) conceptualization of hope, "pathways thinking." "Pathways thinking" involves brainstorming and planning the specific routes one can use to achieve a given goal. The first portion of MacLeod and colleagues' (2008) intervention is similar to the "Best Possible Self" intervention; participants receive instructions to envision their goals. However, participants are also instructed on how to select and refine goals, to plan to achieve those goals, to address obstacles and potential solutions to achieving those goals, and lastly to review the implementation of

the plan. This program was effective in both group and individual self-directed formats.

Getting Positive Psychology to the People

Thus far, we have reviewed the rationale underlying PPIs and provided an overview of the scientifically supported techniques that lead to increases in happiness. Unfortunately, published research findings take a long time to influence practice and application (Glasgow, Lichtenstein, & Marcus, 2003). While structured, manualized PPIs administered by facilitators are being implemented in several settings, such as, secondary education (Seligman, Ernst, Gillham, Reivich, & Linkins, 2009) and the military (Reivich et al., 2011), research on the implementation of self-administered PPIs has only just begun. We would argue, however, that it is in the arena of self-help that dissemination research is most important, as lay consumers lack both the access and training necessary to find and evaluate research findings. A critical step to disseminating these interventions into real-world settings is to develop interventions that are accessible, affordable, and understandable. We highlight several options for dissemination including college courses, books, and the Internet and other technologies.

College Courses

The first example of an empirically evaluated PPI was a course that aimed to increase happiness through providing instruction in the typical behaviors of happy people (Fordyce, 1977, 1983). In recent years, many courses have emerged that either integrate a self-help component into standard education practices (Magyar-Moe, 2011) or are offered as standalone courses (Parks, 2013). Although most of these courses aim to teach the theory and concepts of positive psychology, many include experiential assignments that provide instruction in the skills useful for self-management of one's well-being (Biswas-Diener & Patterson, 2011). Biswas-Diener and Patterson (2011) describe two such assignments used in their positive psychology course. These include introducing happiness by instructing students to "engage in whatever legal activity you believe will make you a small amount happier in one hour" and then returning to the classroom to discuss the experience and a long-term assignment to "select an achievable, personally valued and measurable goal that can be completed by the end of the academic term" (pp. 479–480). These examples illustrate how courses can be considered self-help, as they teach the skills and principles that empower the students with self-management tools to increase their own happiness. As more standalone courses develop, people interested in improving their own

happiness will be able to learn the best scientific principles for doing so.

Bibliotherapy

Historically, books have been one of the most popular forms of self-help. Bibliotherapy usually refers to the use of self-help books to target clinical goals such as reduced depression, anxiety, or other psychopathology (Jamison & Scogin, 1995; Lidren et al., 1994). However, the proliferation of scientifically support interventions to increase happiness has led several academic researchers and positive psychology practitioners to write books aimed at increasing happiness for the general population. Books are more digestible to the lay public than research articles that focus more on conveying to the scientific community that the study was properly conducted than disseminating instruction in specific strategies. Although many of these books claim to be based on scientific evidence (e.g., Lyubomirsky, 2008), research is still needed to verify their efficacy to increase happiness. A recent study evaluated Lyubomirsky's (2008) self-help book, *The How of Happiness,* to determine if it could increase happiness in a lay audience (Parks & Szanto, 2013). *The How of Happiness* covers instruction in many of the activities reviewed in this paper including practicing gratitude and positive thinking (optimism), investing in social connections, living in the present (savoring), and committing to one's goals (hope theory). Additionally, *The How of Happiness* presents suggestions for picking the right PPI for one's personality and lifestyle and advice for supporting continued behavior change based on principles we discuss below (motivation and engagement, timing and variety, etc.). College freshman received either *The How of Happiness* or a well-validated self-help book based on CBT principles (Control Your Depression; Lewinsohn, Muñoz, Youngren, & Zeiss, 1992). Although both books were effective at reducing depressive symptoms, the positive psychology self-help book led to greater increases in life satisfaction. Furthermore, students were more receptive to the positive psychology book, reporting higher levels of enjoyment and use of the strategies as well as viewing the strategies as more effective and meaningful. This suggests that books are an effective way to provide positive psychology strategies and that positive psychology content holds widespread appeal.

Technology-Based Interventions

Whereas bibliotherapy requires people to apply the strategies in the proper contexts after reading the didactic material, technology has the potential to streamline and simplify self-help by enabling learning and interventions to be deeply integrated into one's daily life (see Schueller, Muñoz, & Mohr, 2013). Increasingly, therefore, technology-based interventions such as Internet sites and mobile applications

are being used to deliver interventions and support their use in real-world settings. As positive psychology developed when the Internet was already widespread, it played a major role in the early evaluation and dissemination of positive psychological principles. Indeed, initial support for PPIs came from evaluating the effectiveness of these skills when disseminated online (e.g., Seligman et al., 2005). The same website used to recruit participants into that study (www.authentichappiness.org) continues to offer surveys and research studies to those who wish to learn more about happiness and other positive psychology concepts. Furthermore, several mobile applications that offer psychological guidance are based on positive psychological principles, such as the *Live Happy* iPhone application based on Sonja Lyubomirsky's research. *Live Happy* provides features for eight PPIs: (1) savoring, (2) reminiscing, (3) kindness journal, (4) strengthening social relationships, (5) goal evaluation and tracking, (6) gratitude journal, (7) expressing gratitude, and (8) thinking optimistically. These interventions have considerable overlap with the five categories of PPIs we reviewed. Just as Lyubomirsky's (2008) book has received empirical support, evidence suggests that people who use the *Live Happy* application may experience benefits in their happiness (Parks, Della Porta, Pierce, Zilca, & Lyubomirsky, 2012). Although, many more online and mobile PPIs exist, few have received robust empirical support (see Mitchell, Vella-Brodrick, & Klein, 2010).

Alerting people, however, to resources with scientific baking is a critical step in the dissemination of web and mobile PPIs. Beacon (http://www.beacon.anu.edu.au/), a pioneering database of Internet and mobile interventions for mental and physical health organized within 40 categories, helps those interested find relevant Internet sites and mobile applications (Christensen et al., 2010). Although, the positive psychology category currently includes only three interventions, the related categories of resilience, relationships, and support include several more. Accompanying each intervention is a description, access information, summary of research evidence, and user ratings and comments. Scientific reviewers summarize the research support using a simple 7-point scale, allowing visitors to select scientifically backed interventions without having to synthesize the research literature themselves. Beacon provides an example of how to deliver scientifically supported resources directly to interested consumers and further self-help efforts can draw on this example.

Concerns and Caveats Regarding the Widespread Implementation of Self-Administered PPIs

Thus far, we have told a simple story: effective PPIs exist, and if individuals can access them – and we believe that self-help is the best vehicle by which this access will occur in a scalable and sustainable way – they will become happier. However, in reality, this story is much more complex;

compared to professionally-delivered or supported interventions, self-help has several unique challenges, which must be addressed.

Motivation and Engagement

When people seek out self-help resources, their motivation is often quite high, however this motivation often drops over time resulting in a reduced use of the techniques. Indeed, with regard to the *Live Happy* iPhone app, discussed earlier, only a small portion of the people who downloaded the app used it and left enough data to allow analysis of the changes in their mood scores (Parks et al., 2012). This is quite consistent with other work that finds that an overwhelming number of people who begin an Internet intervention drop out, with very few even progressing past a first lesson (Christensen, Griffiths, Groves, & Korten, 2006). Thus self-help interventions need to be designed to help hook people in early and facilitate long-term behavior change.

The Fogg Behavior Model (FBM) offers several insights into design considerations to do so (Fogg, 2009). In the FBM, three factors influence one's performance of a target behavior: motivation, ability, and triggers. When motivation is high, people are able to complete more difficult behaviors (i.e., finding a self-help resource). When motivation is low, however, people's ability to complete difficult behaviors drops. In order to be successful, self-help programs should provide structure such that when motivation drops people will continue to practice a target behavior. For example, an individual interested in practicing savoring and highly motivated to do so could schedule weekly "savoring meetings" at a coffee shop with a friend. Having a scheduled, weekly activity will promote follow through in the future, even when motivation drops, because of the commitment made and the social reinforcement of getting together with a friend. Another insight from the FBM is that behavior change should begin with small behaviors that through repeated practice will increase one's ability to complete larger behaviors. Thus, a person might begin by gratitude journaling a single thing each day and begin to challenge himself by noting more and more things he is grateful for as time goes on.

Motivation is a critical element of intervention efficacy as well (Lyubomirsky & Layous, 2013). Indeed, some research suggests that only those motivated to increase their happiness benefit from PPIs. In a study by Lyubomirsky and colleagues (2011), they compared participants recruited either through advertisements for a happiness intervention or cognitive exercises. Recruitment source was deemed to be a proxy for motivation. All participants, regardless of the recruitment ad that attracted them, were randomly assigned to one of three conditions: two included previously supported active PPIs (gratitude or optimism) and one a control condition (listing experiences of the week). Both the gratitude and optimism conditions led to increases in well-being compared to the control condition but only for the "motivated" participants who were recruited into the study with the "happiness intervention" ad. The results

of this study provide both reservations and promise for PPIs. First, the lack of efficacy within the "unmotivated" group expecting to receive "cognitive exercises" demonstrates the PPIs may not be effective for all people. One could interpret these findings to be suggestive of possible placebo effects for PPIs; however, it seems unlikely given that well-being did not improve among the "motivated" group who received the control condition. Lyubomirsky and colleagues (2011) took these findings to illustrate the critical importance of motivation. They concluded the PPIs require both a proper "way" and the "will" to follow through and do the suggested technique. Fortunately, PPIs are well-liked and compared to other strategies with the same goal (i.e., promoting a better mood) are viewed as more useful and used more often (Parks & Szanto, 2013; Seligman, Rashid, & Parks, 2006). So although motivation is an important concern for self-help, PPIs might be particularly effective at overcoming this concern.

Variety and Flexibility

Variety appears to be a critical factor in supporting both initial (Parks et al., 2012) and sustained benefits of any life changes related to increased happiness (Sheldon & Lyubomirsky, 2012). Professionals often adapt interventions to consider a person's current needs and capacities, as well as offering suggestions to continue to challenge a person to apply their skills in new ways to promote growth. Self-help interventions can, *and should*, be designed to support long-term practice. For example, to add variety to the "Best Possible Self" intervention, Lyubomirsky and colleagues (2011) modified the instructions to include writing about different topics each week (i.e., romantic life, educational attainment, hobbies or personal interests, family life, career situation, social life, community involvement, and physical/mental health). Variations such as these should be developed drawing on the current theories of happiness and tested to ensure they contribute to sustainable benefits in happiness.

Person-Activity Fit

Perhaps the most important caveat to the proposal that widespread dissemination of PPIs would be beneficial to the general population is the need for a more nuanced approach that considers person-activity fit. Initial work in the PPI literature looking at individual differences suggests substantial variation exists among happiness-seekers – Parks and colleagues (2012) identified two distinct "clusters" that differ substantially in their baseline levels of life satisfaction, positive emotion, and depressive symptom levels. One of these subgroups was consistent with population norms reported in other research: reasonably happy, experiencing few or no depressive symptoms. The other, however, reported well-being scores low enough to suggest clinical depression. While self-help approaches can be effective even for people suffering from mental disorders (see Gregory, Canning, Lee, & Wise, 2004), presumably,

these two subgroups might require different self-help techniques. For instance, individual differences in depression levels have practical significance when it comes to gratitude. In one study, a gratitude intervention was ineffective, and in some cases led to reduced well-being, among depressed individuals who were also interpersonally "needy" (Sergeant & Mongrain, 2011). Given the existence of cases where the efficacy of PPIs varies by individual differences, we recommend that the widespread dissemination of PPIs to the general population be balanced with further attention to questions of person-activity fit.

Rigorous Designs

Rigorous scientific research studies on self-help are limited. Indeed, as previously mentioned, many self-help resources do not draw on empirically-based principles (e.g., see Abroms et al., 2011; McKendree-Smith et al., 2003) and lack validation on their own (Anderson et al., 2005). This issue is mirrored in positive psychology research, where PPIs are often not tested against rigorous control conditions (Wood, Froh, & Geraghty, 2010). Furthermore, results suggest that although PPIs are efficacious when compared to no-treatment controls, the effects are considerably lower when compared to "treatment as usual" or placebo controls (Sin & Lyubomirsky, 2009). Positive findings for PPIs may be circumscribed within specific groups (e.g., motivated individuals, Lyubomirsky et al., 2011) and differences among samples may result in an inability to replicate key findings (e.g., see Mongrain & Anselmo-Matthews, 2012; cf., Seligman et al., 2005). Thus, although we have presented considerable evidence that PPIs do work, we provide the caveat – not always. Although, we believe further exploration of factors such as motivation, variety, and person-activity fit will help explain some of these inconsistences, it is nevertheless critical that investigations use high-quality methods to examine the limits of the effectiveness of these techniques.

Future Directions and Conclusions

Positive psychology has helped develop a variety of intervention strategies that can reliably boost individual happiness (Sin & Lyubomirsky, 2009). An important next step is to research important questions of what interventions work for whom, under what circumstances, and in what contexts to ensure that when interventions are provided as self-help, people will receive the most effective and relevant techniques. Some research has begun to address these questions (see Parks & Biswas-Diener, 2013; Lyubomirsky & Layous, 2013, for reviews) but much additional work is needed to fully disentangle these issues. In order to do so, however, studies should evaluate the effectiveness of these methods when provided in real-world settings and the complications and nuances that arise when doing so. Indeed, promoting the flourishing of the world population requires

bringing resources directly to people as opposed to assuming they will find these resources themselves.

In conclusion, PPIs can lead to reliable boosts in well-being, yet these benefits are smaller when provided as self-help resources (Sin & Lyubomirsky, 2009). In this paper, we have outlined specific positive psychological strategies including savoring, gratitude, kindness, promoting positive relationship processes, and pursuing hope and meaning. Beyond their efficacy, PPIs are useful for self-help not merely because they increase well-being but because they are also well liked. Effectively using PPIs for self-help, however, requires a consideration of the role that motivation and engagement, variety and flexibility, and person-activity fit play in supporting long-term behavior change.

Moreover, in order to begin to achieve Seligman's goal of promoting flourishing worldwide, PPI researchers must think beyond questions of efficacy and begin to tackle the problem of dissemination. What are the best modalities for distributing PPIs to the general population? How can PPIs be made available in a way that is affordable and accessible for all? How will we accurately assess whether PPIs ''work'' in the more inherently messy real-world environments through which they will ultimately be offered to users? In this paper, we have argued that a promising future avenue of PPI research lies in self-help modalities such as books, the Internet, and smartphones – but much work is needed before these methods can truly complement the traditional model of research using in-person interventions. We hope, however, that readers will be inspired to do that work, as we believe it will ultimately benefit a substantial portion of the world population.

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