

Positive Psychology Progress:
Empirical Validation of Interventions

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Abstract

Positive psychology has flourished in the last five years. We review its recent developments, including books, meetings, courses, and conferences. We discuss the newly-created classification of character strengths and virtues, a positive complement to the DSM's, and we present some cross cultural findings that suggest surprising ubiquity of strengths and virtues. Finally, we focus on psychological interventions that increase individual happiness. In a six-group, random assignment, placebo-controlled Internet study, we tested five purported happiness interventions and one plausible control exercise. We found that three of the interventions lastingly increased happiness and decreased depressive symptoms. Positive interventions can supplement traditional interventions that relieve suffering and this may someday be the practical legacy of positive psychology.

Positive Psychology Progress: Empirical Validation of Interventions

Five years have passed since the *American Psychologist* devoted its millennial issue to the emerging science of positive psychology: the study of positive emotion, positive character, and positive institutions (Seligman & Csikszentmihalyi, 2000). Drawing on methods effectively used to advance the science of mental disorders, positive psychologists have been studying mental health and well-being. Building on pioneering work by Rogers (1951), Maslow (1954, 1962), Jahoda (1958), Erikson (1963, 1982), Vaillant (1977), Deci and Ryan (1985), and Ryff and Singer (1996)—among many others—positive psychologists have enhanced our understanding of how, why, and under what conditions positive emotions, positive character, and the institutions that enable them flourish (e.g., Cameron, Dutton, & Quinn, 2003; Easterbrook, 2003; Gardner, Csikszentmihalyi, & Damon, 2001; Kahneman, Diener, & Schwarz, 1999; Murray, 2003; Vaillant, 2000).

Positive psychologists do not claim to have invented the good life or to have ushered in its scientific study, but the value of the overarching term *positive psychology* is to unite what had been scattered and disparate lines of theory and research about what makes life most worth living (Peterson & Park, 2003). As the basic science continues, other lines of work are moving into the realm of application (Linley & Joseph, 2004). Can we take what we have learned about the science and practice of mental illness and use it to create a practice of making people lastingly happier? That is, can we create an evidence-based practice of positive psychology?

In this paper, we first review the recent growth within positive psychology. Next, we describe basic research which bears on whether people can become lastingly happier and then present the results of our own happiness interventions that we rigorously tested with a randomized, placebo-controlled design.

Progress Report

Positive psychology is an umbrella term for the study of positive emotions, positive character traits, and enabling institutions. Research findings from positive psychology are intended to supplement, not remotely to replace, what is known about human suffering, weakness, and disorder. The intent is to have a more complete and balanced scientific understanding of the human experience—the peaks, the valleys, and everything in between. We believe that a complete science and a complete practice of psychology would include an understanding of suffering and happiness, as well as their interaction, and validated interventions that both relieve suffering and increase happiness—two separable endeavors.

Books. In the last five years, aside from a special issue and a special section of the *American Psychologist* (January 2000 and January 2001, respectively), literally hundreds of articles on the topics have appeared in the scholarly and popular press. Books have begun to appear. For example, see *The Handbook of Positive Psychology* (Snyder & Lopez, 2002), *Authentic Happiness* (Seligman, 2002), *A Psychology of Human Strengths* (Aspinwall & Staudinger, 2003), *Flourishing* (Keyes & Haidt, 2003), *Positive Psychological Assessment: A Handbook of Models and Measures* (Lopez & Snyder, 2004), *Positive Psychology in Practice* (Linley & Joseph, 2004), and *Handbook of Methods in Positive Psychology* (Ong & van Dulmen, in press). These volumes summarize the empirical findings and the methods used in the science.

We want to highlight our own *Character Strengths and Virtues: A Handbook and Classification* (“CSV”; Peterson & Seligman, 2004). The CSV represents the most ambitious project self-consciously undertaken from the perspective of positive psychology, and it intends to do for psychological well being what the *Diagnostic and Statistical Manual* of the American

Psychiatric Association (DSM; 1994) does for the psychological disorders that disable human beings. The CSV describes and classifies strengths and virtues that enable human thriving. Although respectful of the DSM, we attempted to avoid some of its problems by making clear why some entries are included in the CSV and others excluded, by regarding positive traits as individual differences that exist in degrees, rather than all-or-nothing categories, and by developing reliable and valid assessment strategies (questionnaires, surveys, interviews, and informant reports) (Peterson, Park, & Seligman, 2005).

The general scheme of the CSV relies on six overarching virtues that almost every culture across the world endorses: wisdom, courage, humanity, justice, temperance, and transcendence (Dahlsgaard, Peterson, & Seligman, 2005). Under each virtue, we identified particular strengths that met the following criteria:

- ubiquity - is widely recognized across cultures
- fulfilling - contributes to individual fulfillment, satisfaction, and happiness broadly construed
- morally valued - is valued in its own right and not as a means to an end
- does not diminish others - elevates others who witness it, producing admiration, not jealousy
- nonfelicitous opposite - has obvious antonyms that are "negative"
- traitlike - is an individual difference with demonstrable generality and stability
- measurable - has been successfully measured by researchers as an individual difference
- distinctiveness - is not redundant (conceptually or empirically) with other character strengths
- paragons - is strikingly embodied in some individuals
- prodigies - is precociously shown by some children or youth
- selective absence - is missing altogether in some individuals
- institutions - is the deliberate target of societal practices and rituals that try to cultivate it

Table 1 lays out the classification, which includes 24 strengths of character. While we avoid a claim of universality, one of ubiquity seems warranted by the evidence below.

Each chapter in the CSV describes what is known and what is not known about each of the included strengths: paradigm cases, consensual definition, historical and cross-cultural background, measurement, correlations and consequences of having or lacking the strength, development, enabling and disabling conditions, gender differences, and interventions that build the strength. We intend this volume to be a framework for conducting future research and creating new interventions.

Three surprising empirical findings have already emerged. First, we have discovered a remarkable similarity in the relative endorsement of the 24 character strengths by adults around the world and within the United States (Park, Peterson, & Seligman, 2005a). The most commonly-endorsed ("most like me") strengths, in 40 different countries, from Azerbaijan to Venezuela, are kindness, fairness, authenticity, gratitude, and open-mindedness, and the lesser strengths consistently include prudence, modesty, and self-regulation. The correlations of the rankings from nation to nation are very strong, in the .80 range, defying cultural, ethnic, and religious differences. The same ranking of greater versus lesser strengths characterizes all 50 US states—except for religiousness, somewhat more evident in the south—and holds across gender, age, red versus blue states, and education. Our results may reveal something about universal human nature and/or the character requirements minimally needed for a viable society (cf. Bok,

1995).

Second, a comparison of strengths profiles between US adults and US adolescents revealed overall agreement on ranking, yet a noticeably lower agreement than that found between US adults and adults in any other nation we have studied (Park, Peterson, & Seligman, 2005b). Hope, teamwork, and zest were more common among US youth than US adults, whereas appreciation of beauty, authenticity, leadership, and open-mindedness were more common among adults. As our attention turns to the deliberate cultivation of character strengths, we should be as concerned with how to keep certain strengths from eroding on the journey to adulthood as well as with how to build others from scratch (Park & Peterson, in press b).

Third, although part of the definition of a character strength is that it contributes to fulfillment, strengths “of the heart”—zest, gratitude, hope, and love—are more robustly associated with life satisfaction than the more cerebral strengths such as curiosity and love of learning: (Park, Peterson, & Seligman, 2004). We find this pattern among adults and among youth, as well as longitudinal evidence that these “heart” strengths foreshadow subsequent life satisfaction (Park, Peterson, & Seligman, 2005b). One more finding to note: Self-regulation among parents, while not strongly associated with parental life satisfaction, is positively linked to the life satisfaction of their children (Park & Peterson, in press a).

Meetings, centers, and courses. Well-attended scholarly meetings occur regularly. For example, in October 2004, over 390 positive psychologists from 23 countries attended the Third Annual International Positive Psychology Summit in Washington, DC. The European Network of Positive Psychology sponsored its second conference in July 2004 in Italy, attended by 300 people from all over the world. Young researchers apply to attend the annual summer Positive Psychology Institute, a week-long program in which researchers early in their careers exchange ideas and receive guidance from more senior figures in positive psychology. From May 15 to June 30 of 2005, 2006, and 2007, Medici II will be held at the University of Pennsylvania: dozens of scientists and scholars will gather to work together on five projects: (a) productivity and health as a function of happiness; (b) national well-being indices; (c) spirituality and successful aging; (d) psychological capital; and e) positive psychology websites in Chinese and Spanish and ultimately all major language groups.

The Positive Psychology Network funds more than fifty research groups involving more than a hundred and fifty scientists from universities all over the world. The first Positive Psychology Centers (at the University of Pennsylvania, the University of Michigan, the University of Illinois, and Claremont Graduate University) now exist.

Positive psychology courses at both the undergraduate and graduate levels are now offered at several dozen US universities and in Europe, exposing students to the idea that it makes sense to study what is right about people in addition to what is wrong. Martin Seligman and Ben Dean offered a 48-hour telephone course, Authentic Happiness Coaching, on the principles, tests, and interventions in Positive psychology. More than 1000 people participated, including clinical and counseling psychologists, coaches, educators, psychiatrists, physicians, and personnel managers. The first Master's degree will be offered by the University of Pennsylvania, a Masters of Applied Positive Psychology, starting in September 2005. Within one month of announcing the existence of the degree, over two hundred applications were filed.

Widespread dissemination of positive psychology research means that the general psychological community is beginning to understand that respectable science can be done on the positive side of life. Websites devoted to Positive Psychology are burgeoning, and some of the most popular include: www.apa.org/science/positivepsy.html, www.bus.umich.edu/Positive/, www.reflectivehappiness.com and www.positivepsychology.org/. A Positive Psychology Listserv can joined at: www.positivepsychology.org/pospsy.htm#PP%20Listserve. There has

been strong media interest in positive psychology, with hundreds of newspaper and magazine articles appearing all over the world. *Time Magazine* devoted its cover and almost its entire January 17, 2005 issue to the scientific advances and practice implications of the field.

Funders have been generous. Atlantic Philanthropies, the Annenberg Foundation, Sunnylands Trust, the Mayerson Foundation, the Templeton Foundation, the Hovey Foundation, the Gallup Foundation, the U.S. Department of Education, and others have made substantial grants to support the scientific research and the dissemination of the findings.

Interventions. We focus the rest of this article on the efficacy of psychological interventions to increase individual happiness, in many ways the bottom line of work in positive psychology. First, a caveat about the word *happiness* itself: We work under the assumption that happiness is a scientifically unwieldy term and that its serious study involves dissolving the term into at least three distinct and better-defined routes to "happiness" (Seligman, 2002): (a) positive emotion and pleasure (the pleasant life); (b) engagement (the engaged life); and (c) meaning (the meaningful life). Our recent research suggests that people reliably differ according to the type of life that they pursue and further that the most satisfied people are those who orient their pursuits toward all three, with the greatest weight carried by engagement and meaning (Peterson, Park, & Seligman, in press). We continue to use the word happiness, but only in the atheoretical sense of labeling the overall aim of the positive psychology endeavor and referring jointly to positive emotion, engagement, and meaning.

One nonobvious reason to be interested in interventions that build happiness is that happiness is not an epiphenomenon. An important fact that has emerged in the last few years is that happiness is causal and brings many more benefits than just feeling good. Happy people are healthier, more successful, and more socially engaged, and the causal direction runs both ways (Lyubomirsky, King, & Diener, 2004). We look forward to continued research on the correlates and consequences of happiness. The causal efficacy of happiness has focused our research group on one practical matter: interventions that build happiness.

Can Positive Psychology Make People Lastingly Happier?

From the Buddha through the human potential movement of the 1960s through the pioneering work of Michael Fordyce (1977, 1983) through the self-improvement industry of the 1990s, at least one hundred "interventions" claiming to increase happiness lastingly have been proposed. We have collected these and have distilled about forty of them into replicable and manualizable form. Which of these really work, and which are at best placebos? There exists a royal road for answering questions like these with respect to medication or psychotherapy--the random-assignment placebo-controlled (RCT) design—and the very same method can be used to validate what, if anything, builds the positive side of life. We first began by teaching these exercises to students in undergraduate and graduate courses and then to a wide variety of mental health professionals in a telephone course. We saw so many powerful "case studies" (in which the testimonial "life-changing" kept appearing spontaneously) that we were inspired to try them out in RCTs and determine if they worked when subjected to rigorous testing.

We also considered the possibility that there would be no exercises that would make people lastingly happier. Research into the hedonic treadmill, adaptation, and the heritability of positive affectivity all implies that people adapt rapidly to positive changes in their world and return to their baseline level of happiness (Brickman & Campbell, 1971; Kahneman, 1999; Lykken & Tellegen, 1996). But because of the power of the case history anecdotes we encountered, we decided to persist and to put the interventions to the random-assignment placebo controlled test.

We now detail the efficacy of five exercises that we have so far put to this test. First, we address two methodological issues: (a) how we measured happiness and depression; and (b) how we delivered the intervention and collected outcome data via the Internet.

Measuring happiness and depression. Measuring depression was straightforward. We used the CES-D symptom survey (Radloff, 1977). After surveying existing measurements of happiness, however, we could find no parallel "symptom survey" of all the three forms of happiness (positive emotion, engagement, and meaning). There exist useful measures of general happiness (e.g., Fordyce, 1977; Lyubomirsky & Lepper, 1999), but these do not allow researchers to make finer distinctions in levels of happiness, especially at the upper end of the scale; scores are skewed and thereby impose a low ceiling. Nor do they include all of the "symptoms" of the pleasant life, the engaged life, and the meaningful life.

In order to capture the week-by-week upward changes in happiness that we thought might occur following our happiness interventions, we created a new measure, the Steen Happiness Index (SHI). We used as our explicit model the Beck Depression Inventory (BDI; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961). Just as the BDI is sensitive to changes in depressive symptoms, we created the SHI to be sensitive to changes, particularly upward changes, in happiness levels. The SHI contains 20 items and requires participants to read a series of statements and pick the one from each group that describes them at the present time. The items on the SHI reflect the three kinds of happy lives (the pleasant life, the engaged life, and the meaningful life): experiencing and savoring pleasures, losing the self in engaging activities, and participating in meaningful activities. Response choices range from a negative (= 1) to an extreme positive (= 5). For example:

- A. Most of the time I am bored. (1)
- B. Most of the time I am neither bored nor interested in what I am doing. (2)
- C. Most of the time I am interested in what I am doing. (1)
- D. Most of the time I am quite interested in what I am doing. (2)
- E. Most of the time I am fascinated by what I am doing. (3)

Pilot work with several hundred adult respondents showed that scores on this measure converge substantially with other measures of happiness ($r = .79$ with the Lyubomirsky & Lepper's [1999] General Happiness Scale and $r = .74$ with Fordyce's [1977] Happiness Scale as would be expected, but that they were, as we hoped, more bell-shaped. Furthermore, change in SHI scores across a one-week period were sensitive to the self-reported occurrence of positive and negative events, even when prior SHI scores were controlled.

Internet-based interventions. We used the Internet to recruit participants, to deliver the intervention, and to collect our data (Prochaska, DiClemente, Velicer, & Rossi, 1993). At this stage in our intervention research, this convenience sample served our purposes well, because on average we have 300 new registrants every day to our website (www.authentichappiness.org) which contains many of the positive questionnaires free. But we also believe this sample may be at least equal to, and perhaps superior to, college sophomores or clinic volunteers in its scientific justification. One small advantage of collecting data via the Internet is that it obviates data entry by the researcher (and associated human error). One larger advantage is substantial cost-effectiveness in large sample studies. After paying for website development and maintenance, there are virtually no additional costs to data collection for adequately-powered studies, and we have offered the use of our website to interested researchers.

Much more scientifically important, and controversial, is the possibility of biased sampling. Gosling, Vazire, Srivastava, and John (2004) compared survey data collected via the Internet to survey data collected via traditional methods. They concluded that: (a) Internet data are just as diverse as data collected via traditional methods; (b) participants who voluntarily

participate in web-based studies are no more psychologically disturbed than traditional participants; and (c) participants in Internet studies are no less likely to take the study seriously or to provide accurate information than participants in traditional samples. We believe our sample is biased but in a relevant direction. It is tilted toward those who want to become happier, exactly the ultimate target of our interventions. We would not want to generalize our findings to people who do not want to become happier or to people who have to be coerced into taking psychological tests. Based on these considerations, we chose to use the Internet.

Procedure. For our first large RCT, we designed five happiness exercises and one placebo control exercise. Each exercise was delivered via the Internet and could be completed within one week. One of these exercises focused on building gratitude, two focused on increasing awareness of what is most positive about oneself, and two focused on identifying strengths of character. In a randomized, placebo-controlled study, we compared the effects of these exercises with those of what we thought would be a plausible placebo control: journaling for one week about early memories. We followed our participants for six months, periodically measuring symptoms of both depression and happiness.

We recruited a convenience sample from among visitors to the website created for Seligman's (2002) book *Authentic Happiness* by creating a link called "Happiness Exercises." The study was described on the site as an opportunity to help test new exercises designed to increase happiness. Over the course of approximately one month, we recruited 577 adult participants, 42% male and 58% female. Almost 2/3 of the participants (64%) were between the ages of 35 and 54. Of the participants surveyed, 39% had a degree from a four-year college and 27% had some graduate school education. Notably, only 4% of the participants did not have education or vocational training after high school, another limit on the generalizability of our findings. Consistent with their reported level of education, approximately 3/4 of the participants classified their income level as "average" or above. The sample was largely white (77%).

Visitors were told that the exercise they were to receive was not guaranteed to make them happier and that they might receive an inert (placebo) exercise. We did not offer any initial financial incentives for doing the exercises. In order to insure good follow-up, we did tell participants, however, that upon completion of follow-up tests at one week, one month, three months, and 6 months after completing the exercise, they would be entered into a lottery. The lottery prizes included one \$500 award and three \$100 awards.

After participants agreed to the terms presented, they answered a series of basic demographic questions and completed two questionnaires: the SHI and CES-D as already described. Then participants received a randomly assigned exercise. Participants were encouraged to print out or write down the instructions for their exercise and keep them accessible during the week to come. They were instructed to return to the website to complete follow-up questionnaires after completing their assigned exercise.

Participants received reminder e-mails. The first reminder, sent early in the week, repeated the instructions for their assigned exercise. They were also given contact information and encouraged to contact the researchers with any questions or concerns. The second reminder e-mail, sent later in the week, reminded participants to return to the website for the follow-up questionnaires: "Thank you again for participating in our study. Please remember to return to [url] by [relevant date] to give us feedback about your exercise and complete follow-up questionnaires."

When participants returned to the website after their exercise, they completed the same measures of happiness and depression administered at pre-test. In addition, participants answered a "manipulation check" question to assess whether they had in fact completed the exercise as instructed during the relevant time period (scored yes or no).

Of the 577 participants who completed baseline questionnaires, 411 (71%) completed all five follow-up assessments. Participants who dropped out of the study did not differ from those who remained on their baseline happiness or depression scores, nor was there differential dropout from the six exercises. We include in our analyses only those participants who completed all follow-up questionnaires¹.

Detailed descriptions of the exercises are available upon request , but here are overviews of each:

- *Placebo control exercise: early memories* - Participants were asked to write about their early memories every night for one week.
- *Gratitude visit* - Participants were given one week to write and then deliver a letter of gratitude in person to someone who had been especially kind to them but had never been properly thanked.
- *Three good things in life* - Participants were asked to write down three things that went well each day and their causes every night for one week. In addition they were asked to provide a causal explanation for each good thing.
- *You at your best* - Participants were asked to write about a time when they were at their best and then to reflect on the personal strengths displayed in the story. They were told to review their story once every day for a week and to reflect on the strengths they had identified.
- *Using signature strengths in a new way* - were asked to take our inventory of character strengths online at www.authenichappiness.org and receive individualized feedback about their top five ("signature") strengths (Peterson, Park, & Seligman, 2005). They were then asked to use one of these top strengths in a new and different way every day for one week.
- *Identifying signature strengths* - This exercise was a truncated version of the one just described without the instruction to use signature strengths in new ways. Participants were asked to take the survey, to note their five highest strengths, and to use them more often during the next week.

Results of the interventions. Two of the exercises—*using signature strengths in a new way* and *three good things*—increased happiness and decreased depressive symptoms for six months. Another exercise, the *gratitude visit*, caused large positive changes for one month. The two other exercises and the placebo control created positive but transient effects on happiness and depressive symptoms. Not surprisingly, the degree to which participants actively continued their assigned exercise on their own and beyond the prescribed one-week period mediated the long term benefits.

Here are more details. Using ANOVAs followed by planned contrasts, we compared the scores of participants across the following time points: pre-test, immediate post-test (after doing their exercise for one week), 1 week after the post-test, 1 month after the post-test, 3 months after the post-test, and 6 months after the post-test. Figures 1 and 2 show the happiness and depression scores of participants by assigned exercise. Sample sizes for each condition are shown in these figures, as well as effect sizes associated with statistically significant ($p < .05$) contrasts for the intervention group between baseline scores and those at the different follow-ups².

An overall ANOVA for happiness scores (six conditions X six time periods) showed significant effects for time ($F = 26.38, p < .001$) and for the interaction of condition by time ($F = 12.38, p < .001$). Similar effects were found for depression scores: significant effects for time ($F = 39.77, p < .001$) and for the interaction of condition by time ($F = 5.21, p < .001$).

Participants in all conditions (including the placebo control condition) tended to be

happier and less depressed at the immediate post-test (after doing their exercise for one week) (see Figures 1 and 2). One week later and at every testing period thereafter, however, participants in the placebo control condition were no different than they had been at baseline.

As Figures 1 and 2 show, at the immediate post-test (after one week of doing the assigned exercise), participants in the *gratitude visit* condition were happier and less depressed. In fact, participants in the *gratitude visit* condition showed the largest positive changes in the whole study. This boost in happiness and decrease in depressive symptoms was maintained at follow-up assessment one week and one month. But by three months, participants in the *gratitude visit* condition were no happier or less depressed than they had been at baseline.

Participants in the *three good things* exercise began to show beneficial effects at one month following the post-test. At the one month follow-up, participants in this exercise were happier and less depressed than they had been at baseline, and they stayed happier and less depressed at the three month and six month follow-ups.

A similar long term improvement occurred for participants in the *using signature strengths in a new way* condition. Immediate effects were less pronounced than for the *three good things* condition, but at the one month follow-up and beyond, participants in this condition were happier and less depressed than they had been at baseline. In contrast, participants in the truncated *identifying signature strengths* condition showed an effect only at the immediate post-test but not thereafter. Likewise, participants in the *you at your best* condition showed an effect only at the immediate post-test.

What caused the long term benefits? Regardless of their exercise, participants were asked explicitly to do their assigned exercise for only one week. When we contacted participants for one-week, one month, three month, and six month follow-ups, we asked participants whether they had indeed continued the exercise for more than one week on their own. We hypothesized that continued practice of an intervention would mediate positive outcomes at follow-up. To test this, we conducted ANOVAs with reported adherence to the exercise and continuing the exercise as the independent variables, and the happiness score as the dependent variable. We did analogous ANOVAs with depression (CES-D) score as the dependent variable.

The results were straight-forward. There was a significant effect for adherence to the exercise on happiness scores at all time periods and a significant effect for adherence to the exercise on depression scores at the one-month follow-up point. The interaction between continuing the exercise and adherence to the exercise was significant for happiness scores, indicating that participants who continued the exercises were the happiest. This interaction was also significant when the CES-D was the dependent variable, indicating—again—that the long term effects of the effective exercises (Figure 2) were most pronounced for those who continued the exercises on their own.

The Future of Positive Interventions

We found specific interventions that make people lastingly happier, and we believe this study holds implications—small and large—for the future of positive interventions and perhaps for clinical interventions. We operationalized and compared five happiness interventions to a placebo control in a sizable random assignment experiment, finding that two interventions—writing about three good things that happened each day and why they happened, and using signature strengths of character in a new way—made people happier (and less depressed) up to six months later. One other intervention—the *gratitude visit*—produced large positive changes but only for one month. Six months is far from “happily ever after,” but our results suggest that lastingly increased happiness might be possible even outside fairy tales. Effect sizes were “moderate” or larger and this is contradicts the widespread belief that the pursuit of happiness is

futile because of inevitable adaptation or an immutable hedonic set-point.

Participants in our study were asked to perform their assigned exercise for one week and then return to the website periodically for follow-up assessments. Regardless of their assigned exercise, participants—even those in the control group—were on average happier and less depressed at immediate post-test. This pattern highlights the crucial importance of a longitudinal, placebo-controlled design in research of this nature, particularly with participants who expect to be made happier. As these studies continue and more exercises are explored, more and more inert exercises will be found, and these inert exercises can serve as placebo controls even though they were intended as active enhancers of well being. Parametric variation can also serve the control group function, yielding “dose-response” curves for increasing intensity or duration of the exercise.

Pioneers in this field (e.g., Fordyce, 1977, 1983) found that happiness levels could be increased by “shotgun” interventions involving multiple exercises. Identifying specific ingredients is an uncommon early move in the testing of interventions and our studies go beyond such demonstrations, although further work is of course needed to identify the fine-detail of how our interventions worked. We also recommend the random assignment placebo control. It may be that the mere act of doing something assigned by a professional in the expectation of gain to boost happiness is sufficient to lift one's spirits in the short-term (Frank, 1973). This may be particularly true of our sample, composed as it is of people who want to become happier, who are invested in the outcome, and who think www.authentichappiness.org is a plausible authority. Baseline CES-D scores indicated that our participants were, on average, mildly depressed. Our participants were probably motivated to try things to feel better, and most did—at least temporarily. Hence the importance of placebo controls.

By one week following the intervention, participants in the placebo control group (the *early memories* exercise) had returned to their baseline levels of happiness and depression symptoms, and there they remained through the six-month follow-up. Those participants who were asked to write a story about themselves at their best—*you at your best*—demonstrated the same pattern as the placebo: an immediate boost in happiness after a week of doing the exercise and an immediate reduction in depressive symptoms as well, with neither lasting beyond the post-test. Therefore, we conclude that this exercise is not an effective intervention, at least not in isolation.

We add "in isolation" because in our multi-exercise programs (which have not yet been subjected to RCT), we use this exercise to introduce the signature strengths interventions, and it is possible that telling an introductory story of one's highest strengths, followed by the effective signature strength exercise, may amplify the benefits on happiness and depression. It seems plausible—given that three of the interventions were effective when delivered alone—to suppose that a package of positive interventions, perhaps including ones that were ineffective in isolation, might well exceed the beneficial effects of any single exercise. Such packages, likely containing some moves that are truly inert, some moves that are inert in isolation but effective in a package, and some moves that are always active, is what any therapy consists in. We have designed and are testing such packages.

Further, these single exercises were delivered with "no human hands," electronically on a website. Discussions of therapeutic effects often emphasize the power of the relationship with the therapist; only when that is in place do specific interventions work. Finding beneficial effects with no human therapeutic alliance suggests the operation of powerful specific ingredients in the exercises. We believe that in the hands of a skilled clinician or coach, even more beneficial effects might occur. Our ongoing studies of packages of exercises delivered with human hands find large effect sizes for relieving depression and increasing happiness, in contrast to the mostly

moderate effect sizes reported here.

We asked participants to do their assigned exercise for only one week. We did not suggest that they should keep it up thereafter. In retrospect, we believe that one week may not be enough time for participants in the *using signature strengths in a new way* condition and the *three good things* condition to develop sufficient skills and experience. Yet participants in both these conditions proceeded to benefit from these exercises up to six months later. We found that the participants who continued to benefit from the exercises were those people who spontaneously did them beyond the required one-week period, without our instruction to do so. We believe that these two interventions are skills which improve with practice and are "fun, and so are self-maintaining. Unlike many therapeutic outcomes, such as weight loss from dieting, these exercises are "self-reinforcing." The majority of participants in these conditions answered "yes" to a question about whether they were continuing the exercise on their own.

As we continue to develop and test exercises, we will pay particular attention to the ease with which the exercise can be integrated into one's daily schedule and to the processes of self-maintenance. It may not be practical for individuals to schedule a formal gratitude visit on a regular basis, but most people can make time every day to express their appreciation for someone--elaborately and sincerely. In any package of positive interventions, it may be optimal to intersperse exercises that make an immediate impact (e.g., the gratitude visit) with those exercises that are easily integrated into the daily routine.

An important question left unanswered by the current study is whether "more is better" when it comes to happiness interventions. Given that the *using signature strengths in a new way* exercise, the *three good things* exercise, and the *gratitude visit* exercise were all effective, does it make sense to assign them all to a person who wishes to be happier? And if so, is there an optimal sequence? Is there a personality type for whom some exercises take and others do not? We are currently testing both the number of exercises parametrically and in different sequences in an attempt to bolster our effects on happiness and depression.

Measurement of positive states needs more research. Many happiness researchers subscribe to the notion that happiness is necessarily subjective and is essentially whatever the individual defines it to be (e.g., Lyubomirsky, Sheldon, & Schkade, *in press*). If happiness is in the eye of the beholder, then self-report measures are the only appropriate measures. We do not think that this approach is solid enough: Even though we may be the best judge of how happy we are at the moment, we may not be accurate historians with respect to when and in what types of situations we were happy in the past. One challenge for researchers is to develop better behavior-based, domain-specific assessment tools. We suspect that productivity at work and physical health follow the same patterns as subjective happiness, and we will welcome the day when productivity and health measures join subjective measures.

Although our study is the most ambitious random assignment placebo controlled test of happiness interventions we know, our interventions are documented only on a convenience sample. This population was largely well-educated, White, and financially comfortable. Furthermore, they were mildly depressed and motivated to become happier. Future research on the efficacy of these exercises for individuals who are either much happier or much more depressed than our current population and who come from other backgrounds may uncover limits on the generality of positive interventions. We are currently asking this question collaborating with disability counselors whose primary task is to help individuals with disabilities to achieve high quality employment and a high quality of life.

Nor can we resist the speculation that happiness exercises may prove therapeutic in depressive disorder. Importantly these interventions also reduced depressive symptoms lastingly, and in other studies we are finding that this effect is massive. Typically in the therapeutic

endeavor, we tackle disorders head-on: we teach anxious people to relax, depressed people to argue against depressing thoughts, people with conflict to gain insight into the sources, and people with obsessive-compulsive disorders to find out that disasters do not ensue if they do not perform their rituals. In fact, an unspoken premise of all “talk” therapy is to talk about your troubles and by confronting them to overcome them. We see positive interventions as a supplement to therapy focused on troubles, another arrow in the quiver of the therapist. Psychotherapy as defined now is where you go to talk about your troubles and your weaknesses; perhaps in the future it will also be where you go to build your strengths. Perhaps on the tenth anniversary of the millennial issue of the American Psychologist, we will be able to review such developments.

At least since the time of Aristotle, scholars, philosophers, and religious leaders have pondered the question, "How can we become lastingly happier?" Yet until recently, the only guiding question of clinical psychology and psychiatry has been, "How can we reduce suffering?" We believe that psychology and psychiatry have found some answers to the suffering question and that this is a fine beginning. But even if answered fully, the mission of psychology should not end there. Few people are wholly content just with being less depressed and less anxious and less angry. We suggest that the future mission of our profession include not only reducing suffering but also increasing the total amount of happiness on the planet.

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Footnotes

1. Older people were happier ($r = .18, p < .001$) and less depressed ($r = -.17, p < .001$). Gender and ethnicity were not associated with happiness or depression scores at baseline or at any of the follow-up assessments. In our analyses, we initially controlled for age, but the results were unaffected, so we present only the unadjusted means.

2. A closer look with ANOVAs at the individual interventions in comparison to the placebo comparison condition detailed these effects. With respect to happiness, there were main effects of time (*gratitude visit*: $F = 39.13, p < .001$; *three good things*: $F = 8.76, p < .001$; *you at your best*: $F = 26.77, p < .001$; *using signature strengths in a new way*: $F = 8.56, p < .001$; *identifying signature strengths*: $F = 24.94, p < .001$), for the interaction of condition by time for the *gratitude visit* ($F = 6.88, p < .001$), for *three good things* ($F = 16.47, p < .001$), and for *using signature strengths in a new way* ($F = 17.91, p < .001$) but not for *you at your best* ($F = 1.75, \text{ ns}$) or *identifying signature strengths* ($F = .35, \text{ ns}$). With respect to depressive symptoms, there were main effects of time (*gratitude visit*: $F = 20.91, p < .001$; *three good things*: $F = 14.43, p < .001$; *you at your best*: $F = 10.37, p < .001$; *using signature strengths in a new way*: $F = 13.35, p < .001$; *identifying signature strengths*: $F = 6.59, p < .001$), for the interaction of condition by time for the *gratitude visit* ($F = 4.62, p < .001$), for *three good things* ($F = 5.15, p < .001$), for *you at your best* ($F = 2.83, p < .02$), and for *using signature strengths in a new way* ($F = 4.56, p < .001$) but not for *identifying signature strengths* ($F = .20, \text{ ns}$).

Table 1
Classification of Character Strengths (Peterson & Seligman, 2004)

1. wisdom and knowledge – cognitive strengths that entail the acquisition and use of knowledge.
 - creativity: thinking of novel and productive ways to do things
 - curiosity: taking an interest in all of ongoing experience
 - open-mindedness: thinking things through and examining them from all sides
 - love of learning: mastering new skills, topics, and bodies of knowledge
 - perspective: being able to provide wise counsel to others
2. courage – emotional strengths that involve the exercise of will to accomplish goals in the face of opposition, external or internal
 - authenticity: speaking the truth and presenting oneself in a genuine way
 - bravery: *not* shrinking from threat, challenge, difficulty, or pain
 - persistence: finishing what one starts
 - zest: approaching life with excitement and energy
3. humanity – interpersonal strengths that involve “tending and befriending” others
 - kindness: doing favors and good deeds for others
 - love: valuing close relations with others
 - social intelligence: being aware of the motives and feelings of self and others
4. justice – civic strengths that underlie healthy community life
 - fairness: treating all people the same according to notions of fairness and justice
 - leadership: organizing group activities and seeing that they happen
 - teamwork: working well as member of a group or team
5. temperance – strengths that protect against excess
 - forgiveness: forgiving those who have done wrong
 - modesty: letting one’s accomplishments speak for themselves
 - prudence: being careful about one’s choices; *not* saying or doing things that might later be regretted
 - self-regulation: regulating what one feels and does
6. transcendence – strengths that forge connections to the larger universe and provide meaning
 - appreciation of beauty and excellence: noticing and appreciating beauty, excellence, and/or skilled performance in all domains of life
 - gratitude: being aware of and thankful for the good things that happen
 - hope: expecting the best and working to achieve it
 - humor: liking to laugh and tease; bringing smiles to other people
 - religiousness: having coherent beliefs about the higher purpose and meaning of life

Figure Captions

Figure 1. Steen Happiness Index (SHI) Scores. Figures are effect sizes corresponding to a statistically significant ($p < .05$) difference between the intervention group at that point in time and baseline. If no effect size is shown, the intervention group and the comparison group did not differ.

Figure 2. Center for Epidemiological Studies-Depression (CES-D) Scores. Figures are effect sizes corresponding to a statistically significant ($p < .05$) difference between the intervention group at that point in time and baseline. If no effect size is shown, the intervention group and the comparison group did not differ.



