

Positive Thinking: Optimism and Gratitude

Optimism

“A pessimist sees the difficulty in every opportunity; an optimist sees the opportunity in every difficulty.” One of Winston Churchill’s most famous quotes suggests that optimists and pessimists have fundamentally different ways of interpreting the world. Recent research indicates that optimists and pessimists approach problems differently, and their ability to cope successfully with adversity differs as a result. Martin Seligman defines optimism as reacting to problems with a sense of confidence and high personal ability. Specifically, optimistic people believe that negative events are temporary, limited in scope (instead of pervading every aspect of a person’s life), and manageable. Of course, optimism, like other psychological states and characteristics, exists on a continuum. People can also change their levels of optimism depending on the situations they are in. For simplicity’s sake, the studies discussed herein will talk about people at the higher end of the spectrum as optimists and people on the lower end as pessimists. This section will review what is known about the benefits of optimism and evidence suggesting optimism is a learnable skill.

Optimistic Explanatory Style: Making Sense of Bad Events

Imagine two students who receive the same poor grade on an exam. The first student thinks, “I’m such a failure! I always do poorly in this subject. I can’t do anything right!” The second student thinks, “This test was difficult! Oh well, it’s just one test in one class. I tend to do well in other subjects.” These students are exhibiting two types of what psychologists call “explanatory styles”. Explanatory styles reflect three attributions that a person forms about a recent event. Did it happen because of me (internal) or something or someone else (external)? Will this always happen to me (stable) or can I change what caused it (unstable)? Is this something that affects all aspects of my life (pervasive) or was it a solitary occurrence (limited)? Pessimistic people tend to view problems as internal, unchangeable, and pervasive, whereas optimistic people are the opposite. Pessimism has been linked with depression, stress, and anxiety (Kamen & Seligman, 1987), whereas optimism has been shown to serve as a protective factor against depression, as well as a number of serious medical problems, including coronary heart disease (Tindle et al., 2009). Optimistic mothers even deliver healthier, heavier babies (Lobel, DeVincent, Kaminer, & Meyer, 2000)! Optimism seems to have a tremendous number of benefits; consider several detailed below.

Optimism and Physical Health

Few outcomes are more important than staying alive, and optimism is linked to life longevity. Maruta, Colligan, Malinchoc, and Offord (2000) examined whether explanatory styles served as risk factors for early death. With a large longitudinal sample collected in the mid-1960s, the researchers categorized medical patients as optimistic, mixed, or pessimistic. Optimism was operationalized using parts of the Minnesota Multiphasic Personality Inventory. The researchers found that for every 10 point increase in a person’s score on their optimism scale, the risk of

early death decreased by 19%. Considering that, for a middle-aged person of average health, the difference between sudden death risk factors for smokers and non-smokers is 5-10%, the protective effect of optimism found in this study is massive.

Optimism also plays a role in the recovery from illness and disease. Multiple studies have investigated the role of optimism in people undergoing treatment for cancer (e.g., Carver et al., 1993; Schou, Ekeberg, & Ruland, 2005). These studies have found that optimistic people experience less distress when faced with potentially life-threatening cancer diagnoses. For example, Schou and colleagues (2005) found that a superior “fighting spirit” found in optimists predicted substantially better quality of life one year after breast cancer surgery. Optimism also predicted less disruption of normal life, distress, and fatigue in one study of women who were undergoing painful treatment for breast cancer (Carver, Lehman, & Antoni, 2003). In this case, optimism appeared to protect against an urge to withdraw from social activities, which may be important for healing. There is also evidence that optimism can protect against the development of chronic diseases. A sample of middle-aged women was tested for precursors to atherosclerosis at a baseline and three years later. The women who endorsed greater levels of pessimism at the baseline assessment were significantly more likely to experience thickening arteries, while optimistic women experienced no such increase in thickness (Matthews, Raikonen, Sutton-Tyrell, & Kuller, 2004).

Optimism can have an effect on a person’s immune system, as well. In one study, elderly adults were immunized for influenza (Kohut, Cooper, Nickolaus, Russell, & Cunnick, 2002). Two weeks later, their immune response to the vaccination was measured. Greater optimism predicted greater antibody production and better immune outcomes. Five studies have also investigated optimism and disease progression in people infected with HIV. Ironson and colleagues (2005) found, in a large sample, that optimism and positive HIV immune response were linearly related: people highest in optimism had the best suppression of viral load and a greater number of helper T cells, both important parts of the progression of HIV. Furthermore, another study found that optimistic men who were HIV-positive had lower mortality over a longitudinal study (Blomkvist et al., 1994). Another study that examined the link between optimism and immune system functioning was conducted by Segerstrom and Sephton (2010). This study examined a sample of entering law students over five time points in their first year of law school. Dispositional optimism (the tendency to be generally optimistic about your life) and optimism about law school, in particular, were assessed, along with measures of positive and negative affect (to determine whether any relationships between optimism and immune system functioning could be better explained through positive or negative affect). This study found that optimism predicted superior cell-mediated immunity, an important part of the immune system’s response to infectious agents. Furthermore, an individual’s changes in optimism levels from time point to time point were associated with changes in immune functioning: as optimism increased from one time point to another, immune function increased, as well. Furthermore, negative affect did not predict changes in immune function. What this means is that optimism appears to have a unique value among the factors that compose a person’s immune system. Taylor and colleagues (1992) found that optimism predicted better psychological coping post-HIV-diagnosis, as well as more perceived control over personal health and well-being. Thus, it appears that an optimistic outlook appears not only to be strongly positively related to a healthy immune system but also to better outcomes for people with compromised immune systems.

Optimism has also been investigated in health-related behaviors. In examining the risk of developing alcohol dependence, one study found that optimism protected against drinking problems in people with a family history of alcoholism (O'hannessian, Hesselbrock, Tennen, & Affleck, 1993). As family history is one of the greatest risk factors for developing substance dependence, optimism's protective effects against its influence may be very important for public health efforts. Beyond helping to prevent substance use problems from developing, optimism may predict better outcomes from efforts to quit using. In a study by Strack, Carver, and Blaney (1987), optimism predicted greater success in treatment for alcohol abuse, with optimistic people more likely to remain in treatment and abstinent than pessimists. Pregnant women who are higher in optimism have been shown to be less likely to abuse substances while pregnant (Park, Moore, Turner, & Adler, 1997). Optimism appears to be an important factor in risky health behaviors: both whether people choose to engage in them and whether they choose to quit.

The studies described above share a common theme: optimism can have profound effects on a person's physical health. The mere act of expecting positive outcomes and being hopeful can boost a person's immune system, protect against harmful behaviors, prevent chronic disease, and help people cope following troubling news. Optimism can even predict a longer life. Among psychological constructs, optimism may be one of the most important predictors of physical health.

Optimism and Psychological Health

Evidence suggests that optimism is important in coping with difficult life events. Optimism has been linked to better responses to various difficulties, from the more mundane (e.g., transition to college [Brissette, Scheier, & Carver, 2002]) to the more extreme (e.g., coping with missile attacks [Zeidner & Hammer, 1992]). Optimism appears to play a protective role, assisting people in coping with extraordinarily trying incidents. Furthermore, optimism has been found to correlate positively with life satisfaction and self-esteem (Lucas, Diener, & Suh, 1996). Segerstrom and Sephton (2010) also examined whether optimism predicted positive affect. Their hypothesis that changes in optimism would predict changes in positive affect was borne out, as increases in optimism were associated with increased positive affect, and vice versa. Interestingly, changes in optimism were not related to changes in negative affect. Thus, it appears that optimism is uniquely related to positive affect. This means that optimists are generally happier with their lives than pessimists.

Optimists are also able to recover from disappointments more quickly by attending to positive outcomes to a greater extent than negative ones. Litt and colleagues (1992) examined optimism and pessimism in couples undergoing in-vitro fertilization (IVF) attempts. In this study, 41 women and their husbands were interviewed two weeks prior to the IVF attempt and two weeks after a subsequent pregnancy test. Among the women who received a negative pregnancy test, optimists were better able than pessimists to cope with failed fertilization attempts by endorsing thoughts like "this experience has made our relationship stronger". Pessimists were more likely to develop depressive symptoms and to feel personally responsible for the failure of the IVF attempt. This study suggests that optimists are better able to cope with disappointment by attending to positive aspects of the setback.

Optimists are also more likely to engage in problem solving when faced with difficulties, which is itself associated with increased psychological well-being (e.g., Taylor et al., 1992). HIV-positive patients who were more optimistic were more likely to plan their recoveries, seek further information, and avoid self-blame and escapism (both of which are associated with worse psychological functioning). Optimists also tend to accept the reality of difficult situations while also framing them in the best possible light (Carver et al., 1993). While pessimists tend to cope through denial and abandoning impeded goals, optimists rely on acceptance and the use of humor. Optimism may even play a role in the well-being of caregivers for people with chronic illnesses. Caring for a loved one with a severe, terminal illness can have serious negative effects on psychological well-being. However, optimism appears to protect against the worst of these effects, as optimism has been associated with less depression and greater well-being in studies of people caring for others with cancer (Given et al., 1993) or Alzheimer's (Hooker et al., 1992). The association between optimism and coping with other, less extreme difficulties has been investigated, as well. For example, in one study of college freshman, measures of optimism, hope, and well-being were administered immediately upon beginning college (Aspinwall & Taylor, 1992). At the end of the semester, measures of well-being were again administered. Optimism at the beginning of college predicted a smoother, psychologically healthier transition to college life, as well as larger groups of new friends.

With all of the research presented above, it is clear that optimism is a powerful tool in our repertoire to keep us healthy, happy, and alive. This news is great for people who are “natural” optimists, but what about others who don't generally “look on the bright side”? Can “natural” pessimists learn to become more optimistic?

Can a Pessimist Become an Optimist?

Martin Seligman, father of positive psychology, began his career studying depression, stress, and anxiety. From his work in these areas, he discovered that the optimistic explanatory style described above acted as a protective factor against the development of depression when faced with difficult circumstances. For a psychologist, understanding what makes some people more immune to suffering is beneficial, but it's also somewhat unsatisfying if those benefits cannot be extended to other people. Thus, Seligman set out to understand whether or not optimism could be learned. Various studies on changing explanatory styles were conducted, and the general theme of their findings was that optimism could, indeed, be learned (Gillham, Reivich, Jaycox, & Seligman, 1995). Following this line of research, a curriculum was developed for school children to attempt to inculcate in them an optimistic explanatory style. Children were selected as the population of interest as their personalities are more malleable than adults, as they are still forming and have not “solidified”. Thus, they represent a perfect population for testing the idea that psychological interventions can modify a person's personality. The program, called the Penn Resiliency Program (PRP), operates under the idea that instilling optimism in young people might serve to protect them from developing depressive symptoms in the future as sort of a “psychological immunization”. It relies on teachers and school counselors to administer 12 sessions of intervention, in which students are taught, among other things, how to change the types of thoughts that are consistent with the pessimistic explanatory style. Multiple studies have used strict randomized controlled trial criteria to evaluate the efficacy of this program. One study (Gillham et al., 2007) examined the use of the PRP in nearly 700 middle school students across

three schools. Children were assigned to the PRP, to a program (Penn Enhancement Program [PEP]) that focused on stressors common in adolescent life, including self-esteem, peer pressure, and family conflict, or to a control condition in which students received no intervention. Students were assessed on measures of depressive symptoms and well-being two weeks after the final session and then every six months for the subsequent three years. In two of the three schools, 20% fewer students in the PRP condition reported elevated depressive symptoms three years post-intervention when compared to the control group, and nearly 10% fewer when compared to the PEP. This evidence seems to support the idea that optimism can be developed and nurtured in young people, though similar programs have not been developed for adults. More research is necessary, but it appears that optimism can be trained or learned. Thus, there is a promising argument to be made that anyone can learn to derive the numerous benefits of optimism.

Conclusions: Where do we go from here?

Countless studies have been conducted on optimism, and the vast majority of them support the same conclusions: optimism is healthy! Optimists live longer, have better functioning immune systems, cope better with difficult circumstances, and even have healthier babies. Are there downsides? There are a few. For instance, there is some evidence that under certain circumstances, optimism can actually suppress immune functioning. For a certain subset of the law student sample profiled in Segerstrom and Sephton (2010), more difficult stressors coupled with higher levels of optimism actually predicted *worse* immune functioning (Segerstrom, 2006). The reasons for this are unclear, but one explanation might be that optimism was mostly linked to negative outcomes in law students who stayed close to home for law school. For these students, there might be greater competing pressures between social goals (spending time with friends and loved ones) and performing optimally in graduate school. With a finite amount of time and energy, coupled with the tendency of optimists to persevere in the face of difficulty, these students might simply be exhausting their body's resources. Optimism has also been linked to health behaviors that can have negative consequences. For example, one study found that optimistic teenage girls were less likely than less optimistic peers to seek information about HIV testing. Furthermore, they were less likely to actually get tested (Goodman, Chesney, & Tipton, 1995). These examples indicate that optimism may have its downsides, but the good outcomes related to it far outweigh the negatives.

It's apparent from the PRP studies that optimism can be nurtured in children, but what about adults? Studies that have investigated this question have relied on one-on-one cognitive behavioral therapy to improve levels of optimism, but no large-scale intervention has yet been developed. Further research is necessary to determine whether non-clinical interventions can be used to foster optimism. It stands to reason that changing automatic negative thoughts should be possible in PRP-style interventions for adults, but this is a question that will need to be answered with solid data.

Ultimately, there is a large, scientifically valid body of research that indicates that optimistic people are generally better off in life than pessimists. This is a growing area of research, and the future of positive thinking research is promising.

[Link to Philosophy of Mindfulness](#)

<http://www.pursuit-of-happiness.org/science-of-happiness/positive-thinking/>

Gratitude: Parent of all virtues

The great Roman orator Cicero wrote, “Gratitude is not only the greatest of virtues, but the parent of all the others.” Indeed, all of us can think of times in our lives when we’ve expressed heartfelt thanks to others for gifts of time and effort. Being grateful feels good. Gratitude, the state or feeling of being thankful, is an almost universal concept among world cultures. In fact, nearly all of the world’s spiritual traditions emphasize the importance of giving thanks to benefactors, supernatural or otherwise (Emmons & Crumpler, 2000). Robert Emmons, a leader in the field of gratitude research, defines gratitude as the feeling that occurs when a person attributes a benefit they have received to another (Emmons, 2004). Feeling grateful has a number of benefits. Feelings of gratitude are associated with less frequent negative emotions and more frequent positive emotions such as feeling energized, alert, and enthusiastic (McCullough, Emmons, & Tsang, 2002). Beyond emotions, there is evidence that gratitude is associated with pleasant physical sensations, as well. Algoe and Haidt (2009) found that people experienced pleasant muscle relaxation when recalling situations in which they’d felt grateful. It is apparent that the mere act of giving thanks can have remarkable impact on a person’s well-being.

Taking time to appreciate your mother for all the care she provided growing up; reconnecting with an old friend to express your gratitude for always being there for you; seeking out and thanking a favorite teacher who helped you grow – specific acts of gratitude can have a variety of positive consequences, but what about people who are more grateful by nature than others? Given the centrality of thanksgiving in religious traditions, grateful people tend to be more spiritual than their less-grateful counterparts. People who are generally grateful report being more agreeable and less narcissistic compared with less grateful people. People who are more grateful also report being happier (Watkins, Woodward, Stone, & Kolts, 2003).

Characteristics of grateful people

What separates more grateful people from less grateful people? Recent evidence shows that a lot of the differences may be in how grateful people approach situations in which they’ve received some form of aid. When presented with the same short stories in which participants are told they’ve received help from another person, more grateful people tend to see their benefactors as more selfless and having exerted more effort to help, as well as placing higher value on the help they received (Wood, Maltby, Stewart, Linley, & Joseph, 2008). To further support this hypothesis, these authors sought to replicate their findings in people’s daily lives. Students kept diaries of moments in their everyday environment when they were helped by another person and then asked to rate how selfless and sincere was the benefactor, how much effort did the benefactor expend, how grateful did they feel toward their benefactor, and how valuable was the help received. Findings from these random moments in everyday life supported the hypothesis that more grateful people rate all of these factors higher than less grateful people. These findings suggest that grateful people interpret events in a unique way, and this interpretation style might account for the benefits extracted from gift giving experiences.

Extrapolating from the interpretations that differentiate more and less grateful people, Wood and colleagues (2008) used a longitudinal design to investigate how gratitude related to social support, stress, and depression. Longitudinal studies follow the same group of people over time, which allows researchers to examine temporal relationships between different variables. This has the benefit of strengthening hypotheses about causal relationships between variables. In this study, the researchers asked people to rate the overall gratitude, social support, depression, and stress in their life. Everyone was contacted again to complete the same questionnaires three months later. How grateful people initially felt predicted greater feelings of social support and less stress and depression three months later. Thus, it appears that grateful people find themselves feeling a sense of belonging and a relative absence of stress and depression. Psychologists have repeatedly shown that perceptions are more important than objective reality and grateful people possess benign interpretations of themselves, other people, and the world.

There are interpersonal benefits associated with gratitude, as well. Feelings of gratitude are associated with increased feelings of closeness and a desire to build or strengthen relationships with a benefactor (Algoe & Haidt, 2009). Acts of gratitude require us to admire good characteristics of other people. Doing so encourages us to become closer to them. It has the added benefit of improving mood: reflecting upon the good another had done for them elevated the moods of participants in Algoe and Haidt's (2009) study, who were asked to recall a time in which another person had assisted them in an exemplary way. In addition, the act of contemplating times in which another person had helped these participants resulted in participants expressing a desire for moral growth and to help others, themselves. Thus, it appears that being grateful can actually encourage people to do something good for another person. Gratitude, therefore, might have important benefits to society as a whole.

It has become clear that there are a number of advantages associated with being grateful. Among other things, grateful people are happier, have stronger feelings of social support, and feel less stressed and depressed. As being grateful has so many positive attributes, it seems that intervening to increase people's levels of gratitude may be a good way to increase their feelings of well-being. In the next section, we discuss the research that has attempted to do just that.

Becoming more grateful: Does it work?

While it's clear that gratitude and well-being are connected, the research presented above is correlational in nature. What this means is that, while those studies tell us there is a connection between being grateful and being happy, it is impossible to say which one leads to the other. Based on that evidence, it could simply be that people who are already happier are more grateful. To better identify a causal relationship, carefully controlled experiments are required.

Fortunately, there has been an abundance of such research in the last decade. Emmons and McCullough (2003) conducted some of the first experimental studies of the effects of gratitude on well-being. In one study, college students were randomly placed into one of three conditions, (gratitude, hassles, or events), each of which lasted for nine weeks. Participants were given weekly packets in which they were to write down different things depending on their condition. In the gratitude condition, students were asked to write down several experiences for which they were grateful. In the hassles condition, students wrote down annoyances they experienced in the

previous week. Finally, in the events condition, students wrote down a number of events that affected them in the past week. No instruction was given about what types of events to include, and responses ranged from “learned CPR” to “cleaned out my shoe closet”. The events condition acted as a neutral control condition to which the other two were compared. Students also completed a series of measures assessing physical symptoms and overall well-being. Students in the grateful condition reported significantly greater life satisfaction, greater optimism for the upcoming week, fewer physical symptoms, and, perhaps most surprisingly, exercised significantly more than students in either the events condition or the hassles condition. However, the gratitude intervention did not have a significant impact on positive or negative emotions. Thus, while being grateful caused students to assess their lives as more satisfying and made them more optimistic about their futures, it didn’t change the overall emotional tone of their daily lives.

A subsequent study replaced the weekly exercises from the previous study with daily diaries that were used for two weeks. This study kept the gratitude and hassles conditions, but replaced the events condition with instructions to write about ways in which the students were better off than other people. This study found a significant difference in levels of positive affect between people in the gratitude condition and people in the hassles condition, which is a bit like comparing healthiness between people who have eaten fruits and vegetables for a week with people who have eaten only cheeseburgers and fries. Based on these two studies, the causal link between gratitude and well-being is clearly present. However, it is thus far difficult to make the claim that being grateful makes a person happier.

While the research by Emmons and McCullough (2003) suggests that being more grateful doesn’t necessarily increase positive emotions more than not doing anything at all, that study was conducted with a sample of undergraduates. Perhaps children, whose brains and personalities are more malleable than those of college students, would derive greater benefit from grateful acts. To investigate this, Froh and colleagues (2008) examined the effects of counting blessings in a sample of sixth and seventh graders. Classes were assigned to the same conditions as in Emmons and McCullough (2003). Findings were similar to that study, as well, with the gratitude intervention resulting in happier students when compared to the students who wrote about their hassles, but not when compared to the neutral control students. However, these researchers examined other outcomes, as well. Froh and colleagues found that students who were told to be grateful were more excited about and satisfied with school than the students in the other conditions. Given the importance of school satisfaction in academic performance, this is a promising area of research for researchers and educators alike.

The studies covered thus far have shown a number of benefits associated with increasing gratitude in people of different ages. What they have not yet shown, however, is that making people more grateful makes them happier. To further investigate this area, Froh and colleagues (2009) hypothesized that gratitude interventions weren’t increasing levels of positive affect because many of the people who composed the samples in previous research were already happy. Perhaps people who are happier reach a “ceiling” point, beyond which it is very difficult to become even happier. This theory is consistent with research by social psychologist Sonja Lyubomirsky, who found that people adapt quickly to positive changes in their lives and thus derive diminishing happiness returns from them. Perhaps, for people who are less happy to begin

with, feelings of gratitude are more novel, and thus less happy people experience a greater benefit from gratitude exercises. Froh and colleagues (2009) examined the effects of expressed gratitude in students ranging from third to twelfth grade. Their findings indicated that the students with the lowest levels of positive affect received substantial benefits from expressing gratitude when compared to a neutral control condition. In other words, the students who had the most to gain in terms of positive emotion gained the most positive emotion, a surprising and exciting result. Furthermore, it's possible that people with greater positive emotions to begin with are more open and receptive to changing their life orientation and enhancing their existing relationships. This includes being in a state of mind to be better attuned to positive events and more open to savoring them, integrating these experiences into their visions of how their overall lives appear. Taken in this context, it appears that, while nearly everyone derives benefits from giving thanks, different people experience different rewards.

Altogether, the studies profiled here have shown that gratitude can be increased through targeted interventions and that those increases have important implications for people's well-being. But the question remains: can encouraging people to be more grateful really make them happier? Sheldon and Lyubomirsky (2006) set out to answer this question with a four-week experimental study. In this study, students were asked to either count their blessings everyday or write about details of their lives. At two-week and four-week intervals, the participants completed "check-ups", in which they rated their levels of well-being, positive emotions, and negative emotions. The most exciting result from this study is that people in the gratitude condition increased in positive affect when compared to the control condition. This is a novel result, as prior research had shown only that gratitude interventions were effective in increasing positive affect compared to exercises that asked people to write about bad things that had happened to them. However, a caveat applies: in these analyses, the gratitude condition was paired with another experimental condition, in which students were asked to envision their "best possible selves" in their ideal future lives. Both of these interventions resulted in higher levels of positive affect, but there was no difference between them. Furthermore, all conditions experienced a decrease in negative affect across the four weeks of the study, with no significant differences between them. While these results are exciting, it would be advantageous to attempt to replicate them in other samples to more fully establish an effect.

There is a possibility that the way in which the gratitude intervention is delivered matters. Lyubomirsky and colleagues (2005) conducted a study in which they asked participants in the experimental condition to contemplate "things for which they are grateful" over the course of six weeks. Participants in the control condition completed only assessments of their happiness levels. In addition to the experimental and control condition, participants were asked either to complete the tasks once a week or three times a week. Results indicated that participants who completed the tasks only once a week showed increases in levels of well-being compared to the control group, but participants who completed the tasks three times a week showed no difference in happiness. A possible explanation for this could be that people who "counted their blessings" multiple times per week became bored with the intervention, and it thus lost its ability to increase happiness.

Each of the above studies has used multiple gratitude exercises to attempt to effect change. However, one study has examined the effects of a single gratitude-enhancing event: the letter of

gratitude. Seligman and colleagues (2005) asked visitors to their website to write a letter to a person that they felt they had never properly thanked for a past kindness. These people were then asked to deliver this letter in person to their benefactor. These people experienced a substantial increase in happiness compared to people who wrote about their early memories. Furthermore, the increase was significant through one month post-intervention. These findings are perhaps the most excited yet profiled. However, that excitement must be tempered by the fact that the sample used in this study was visitors to a website about happiness. These people might be especially motivated to complete the exercise, or there may be important differences in people who seek out such tasks. While these results are promising, it will be important to attempt to replicate these findings in more typical samples. Fortunately, one can take away a positive spin from this study, as well: this experiment found substantial increases in happiness from a single intense gratitude-enhancing activity. While the increase in happiness was relatively short-lived, it suggests that there might be ways to use gratitude to improve happiness long term.

The take-home message from these studies is this: gratitude interventions have a number of positive effects, ranging from improving people's feelings of thankfulness to increasing levels of school satisfaction. Each of these outcomes is valuable in its own right. However, the answer to the question, "Do gratitude interventions make people happier?" remains an (optimistic) "Maybe, but we don't know for sure."

Conclusions: Where do we go from here?

Of all the areas studied in the relatively young field of positive psychology, gratitude has perhaps the widest body of research. Grateful people have been shown to have greater levels of positive affect, a greater sense of belonging, and lower levels of depression and stress. Furthermore, efforts to make people more grateful have their own benefits. Gratitude is clearly an important part of a "good life", and it therefore demands further careful research. Each of the studies profiled here has strong scientific merit, and their results should give us a sense of cautious optimism as we move forward in the study of thanksgiving.

Bibliography on Optimism

Aspinwall, L., & Taylor, S. (1992). Modeling cognitive adaptation: A longitudinal investigation of the impact of individual differences and coping on college adjustment and performance. *Journal of Personality and Social Psychology*, 63(6), 989-1003.

Blomkvist, V., Theorell, T., Jonsson, H., Schulman, S., Berntorp, E., & Stieglendal, L. (1994). Psychosocial self-prognosis in relation to mortality and morbidity in hemophiliacs with HIV infection. *Psychotherapy and Psychosomatics*, 62, 185-192.

Brissette, I., Scheier, M. F., & Carver, C. S. (2002). The role of optimism and social network development, coping, and psychological adjustment during a life transition. *Journal of Personality and Social Psychology*, 82, 102-111.

<http://www.pursuit-of-happiness.org/science-of-happiness/positive-thinking/>

Carver, C. S., Lehman, J. M., & Antoni, H. M. (2003). Dispositional pessimism predicts illness-related disruption of social and recreational activities among breast cancer patients. *Journal of Personality and Social Psychology*, *84*, 813-821.

Carver, C. S., Pozo, C., Harris, S. D., Noriega, V., Scheier, M. F., Robinson, D. S., et al. (1993). How coping mediates the effect of optimism on distress: A study of women with early stage breast cancer. *Journal of Personality and Social Psychology*, *65*, 375-390.

Gillham, J. E., Reivich, K. J., Jaycox, L. H., & Seligman, M. E. P. (1995). Preventing depressive symptoms in schoolchildren: Two year follow-up. *Psychological Science*, *6*, 343-351.

Gillham, J., Reivich, K., Freres, D., Chaplin, T., Shatté, A., Samuels, B., et al. (2007). School-based prevention of depressive symptoms: A randomized controlled study of the effectiveness and specificity of the Penn Resiliency Program. *Journal of Consulting and Clinical Psychology*, *75*(1), 9-19.

Given, C., Stommel, M., Given, B., Osuch, J., Kurtz, M., & Kurtz, J. (1993). The influence of cancer patients' symptoms and functional states on patients' depression and family caregivers' reaction and depression. *Health Psychology*, *12*, 277-285.

Goodman, E., Chesney, M. A., & Tipton, A. C. (1995). Relationship of optimism, knowledge, attitudes, and beliefs to use of HIV antibody test by at-risk female adolescents. *Psychosomatic Medicine*, *57*, 541-546.

Hooker, K., Monahan, D., Shifren, K., & Hutchinson, C. (1992). Mental and physical health of spouse caregivers: The role of personality. *Psychology and Aging*, *7*(3), 367-375.

Ironson, G., Balbin, E., Stuetzle, R., Fletcher, M. A., O'Cleirigh, C., Laurenceau, J.-P., et al. (2005). Dispositional optimism and the mechanisms by which it predicts slower disease progression in HIV: Proactive behavior, avoidant coping, and depression. *International Journal of Behavioral Medicine*, *12*, 86-97.

Kamen, L. & Seligman, M. E. P. (1987). Explanatory style and health. In M. Johnston and T. Marteau (Eds.), *Current psychological research and reviews: Special issue on health psychology*, *6*, 207-218.

Kohut, M. L., Cooper, M. M., Nickolaus, M. S., Russell, D. R., & Cunnick, J. E. (2002). Exercise and psychosocial factors modulate immunity to influenza vaccine in elderly individuals. *Journal of Gerontology: Series A. Biological Sciences and Medical Sciences*, *57*, 557-562.

Litt, M. D., Tennen, H., Affleck, G., & Klock, S. (1992). Coping and cognitive factors in adaptation to *in vitro* fertilization failure. *Journal of Behavioral Medicine*, *15*, 171-187.

Lobel, M., DeVincent, C. J., Kaminer, A., & Meyer, B. A. (2000). The impact of prenatal maternal stress and optimistic disposition on birth outcomes in medically high risk women. *Health Psychology*, *19*, 544-553.

Lucas, R. E., Diener, E., & Suh, E. (1996). Discriminant validity of well-being measures. *Journal of Personality and Social Psychology, 71*, 616-628.

Maruta, T., Colligan, R. C., Malinchoc, M., & Offord, K. P. (2000). Optimists vs. pessimists: Survival rate among medical patients over a 30-year period. *Mayo Clinic Proceedings, 75*, 140-143.

Matthews, K. A., Raikkonen, K., Sutton-Tyrell, K., & Kuller, L. H. (2004). Optimistic attitudes protect against progression of carotid atherosclerosis in healthy middle-aged women. *Psychosomatic Medicine, 66*, 640-644.

Ohannessian, C. M., Hesselbrock, V. M., Tennen, H., & Affleck, G. (1993). Hassles and uplifts and generalized outcome expectancies as moderators on the relation between a family history of alcoholism and drinking behaviors. *Journal of Studies on Alcohol, 55*, 754-763.

Park, C. L., Moore, P. J., Turner, R. A., & Adler, N. E. (1997). The roles of constructive thinking and optimism in psychological and behavioral adjustment during pregnancy. *Journal of Personality and Social Psychology, 73*, 584-592.

Schou, I., Ekeberg, O., & Ruland, C. M. (2005). The mediating role of appraisal and coping in the relationship between optimism-pessimism and quality of life. *Psycho-oncology, 14*, 718-727.

Seegerstrom, S.C. (2006). How does optimism suppress immunity? Evaluation of three affective pathways. *Health Psychology, 25*, 653-657.

Seegerstrom, S.C., & Sephton, S.E. (2010). Optimistic expectancies and cell-mediated immunity: The role of positive affect. *Psychological Science*.

Strack, S., Carver, C. S., & Blaney, P. H. (1987). Predicting successful completion of an aftercare program following treatment for alcoholism: The role of dispositional optimism. *Journal of Personality and Social Psychology, 53*, 579-584.

Taylor, S. E., Kemeny, M. E., Aspinwall, L. G., Schneider, S. G., Rodriguez, R., & Herbert, M. (1992). Optimism, coping, psychological distress, and high-risk sexual behavior among men at risk for acquired immunodeficiency syndrome (AIDS). *Journal of Personality and Social Psychology, 63*, 460-473.

Tindle, H. A., Chang, Y. F., Kuller, L. H., Manson, J. E., Robinson, J. G., Rosal, M. C., Siegle, G. J., & Matthews, K. A. (2009). Optimism, cynical hostility, and incident coronary heart disease and mortality in the Women's Health Initiative. *Circulation, 120*, 656-662.

Zeidner, M. & Hammer, A. (1992). Coping with missile attack: Resources, strategies, and outcomes. *Journal of Personality, 60*, 709-746.

Bibliography on Gratitude

- Algoe, S. B. & Haidt, J. (2009). Witnessing excellence in action: The 'other-praising' emotions of elevation, gratitude, and admiration. *Journal of Positive Psychology, 4*, 105-127.
- Emmons, R. A. (2004). Gratitude. In M.E.P. Seligman & C. Peterson (Eds.), *Character strengths and virtues* (pp. 553-568). New York: Oxford University Press.
- Emmons, R. A., & Crumpler, C. A. (2000). Gratitude as a human strength: Appraising the evidence. *Journal of Social and Clinical Psychology, 19*, 56-69.
- Emmons, R. A., & McCullough, M. E. (2003). Counting blessings versus burdens: Experimental studies of gratitude and subjective well-being. *Journal of Personality and Social Psychology, 84*, 377-389.
- Froh, J. J., Sefick, W. J., & Emmons, R. A. (2008). Counting blessings in early adolescents: An experimental study of gratitude and subjective well-being. *Journal of School Psychology, 46*, 213-233.
- Froh, J. J., Yurkewicz, C., & Kashdan, T. B. (2009). Gratitude and subjective well-being in early adolescence: Examining gender differences. *Journal of Adolescence, 32*, 633-650.
- Lambert, N. L., Graham, S., & Fincham, F. D. (2009). A prototype analysis of gratitude: Varieties of gratitude experiences. *Personality and Social Psychology Bulletin, 35*, 1193-1207.
- McCullough, M. E., Emmons, R. A., & Tsang, J. (2002). The grateful disposition: A conceptual and empirical topography. *Journal of Personality and Social Psychology, 82*, 112-127.
- Seligman, M. E. P., Steen, T., Park, N., & Peterson, C. (2005). Positive psychology progress: Empirical validation of interventions. *American Psychologist, 60*(5), 410-421.
- Sheldon, K. M., & Lyubomirsky, S. (2006). How to increase and sustain positive emotion: The effects of expressing gratitude and visualizing best possible selves. *The Journal of Positive Psychology, 1*, 73-82.
- Watkins, P. C., Woodward, K., Stone, T., & Kolts, R. L. (2003). Gratitude and happiness: Development of a measure of gratitude, and relationships with subjective well-being. *Social Behavior and Personality, 31*, 431-452.
- Wood, A. M., Maltby, J., Stewart, N., Linley, P. A., & Joseph, S. (2008). A social-cognitive model of trait and state levels of gratitude. *Emotion, 8*, 281-290.
- Wood, A. M., Maltby, J., Gillett, R., Linley, P. A., & Joseph, S. (2008). The role of gratitude in the development of social support, stress, and depression: Two longitudinal studies. *Journal of Research in Personality, 42*, 854-871.

Other Selected Studies

- McCullough, M. E., Kilpatrick, S. D., Emmons, R. A., & Larson, D. B. (2001). Is gratitude a moral affect? *Psychological Bulletin*, *127*, 249-266.
- McCullough, M. E., Kimeldorf, M. B., & Cohen, A. D. (2008). An adaptation for altruism? The social causes, social effects, and social evolution of gratitude. *Current Directions in Psychological Science*, *17*, 281-284.
- McCullough, M. E., Tsang, J., & Emmons, R. A. (2004). Gratitude in intermediate affective terrain: Links of grateful moods to individual differences and daily emotional experience. *Journal of Personality and Social Psychology*, *86*, 295-309.
- Wood, A. M., Joseph, S., & Maltby (2009). Gratitude predicts psychological well-being above the Big Five facets. *Personality and Individual Differences*, *45*, 655-660.
- Wood, A. M., Joseph, S., & Linley, P. A. (2007). Coping style as a psychological resource of grateful people. *Journal of Social and Clinical Psychology*, *26*, 1108 – 1125.
- Wood, A. M., Joseph, S., & Linley, P. A. (2007). Gratitude. *The Psychologist*, *20*, 18-21.
- Wood, A. M., Joseph, S., & Maltby, J. (2008). Gratitude uniquely predicts satisfaction with life: Incremental validity above the domains and facets of the Five Factor Model. *Personality and Individual Differences*, *45*, 49-54.
- Wood, A. M., Joseph, S., Lloyd, J., & Atkins, S. (2009). Gratitude influences sleep through the mechanism of pre-sleep cognitions. *Journal of Psychosomatic Research*, *66*, 43-48
- Wood, A. M., Maltby, J., Stewart, N., & Joseph, S. (2008). Conceptualizing gratitude and appreciation as a unitary personality trait. *Personality and Individual Differences*, *44*, 619-630.