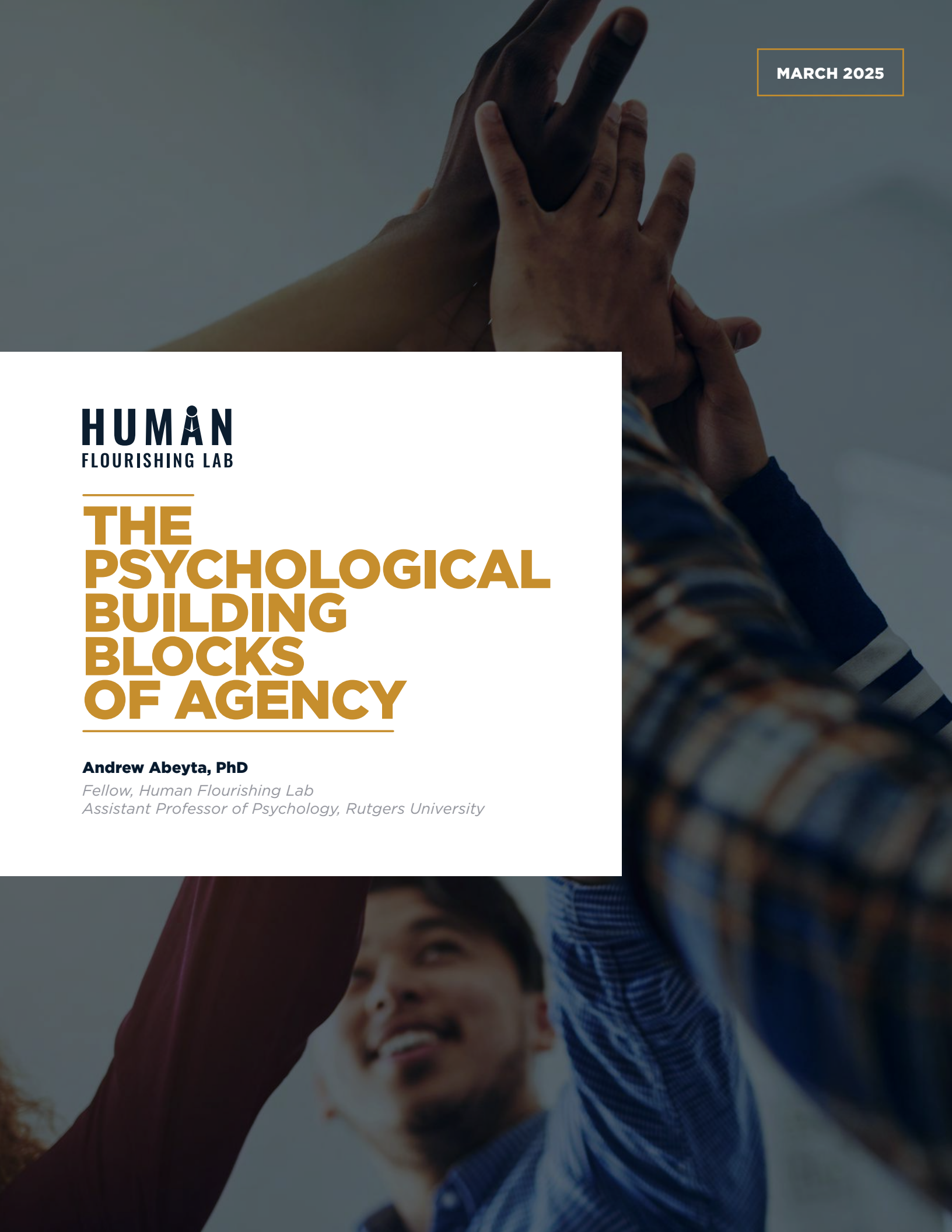

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HUMAN
FLOURISHING LAB

THE PSYCHOLOGICAL BUILDING BLOCKS OF AGENCY

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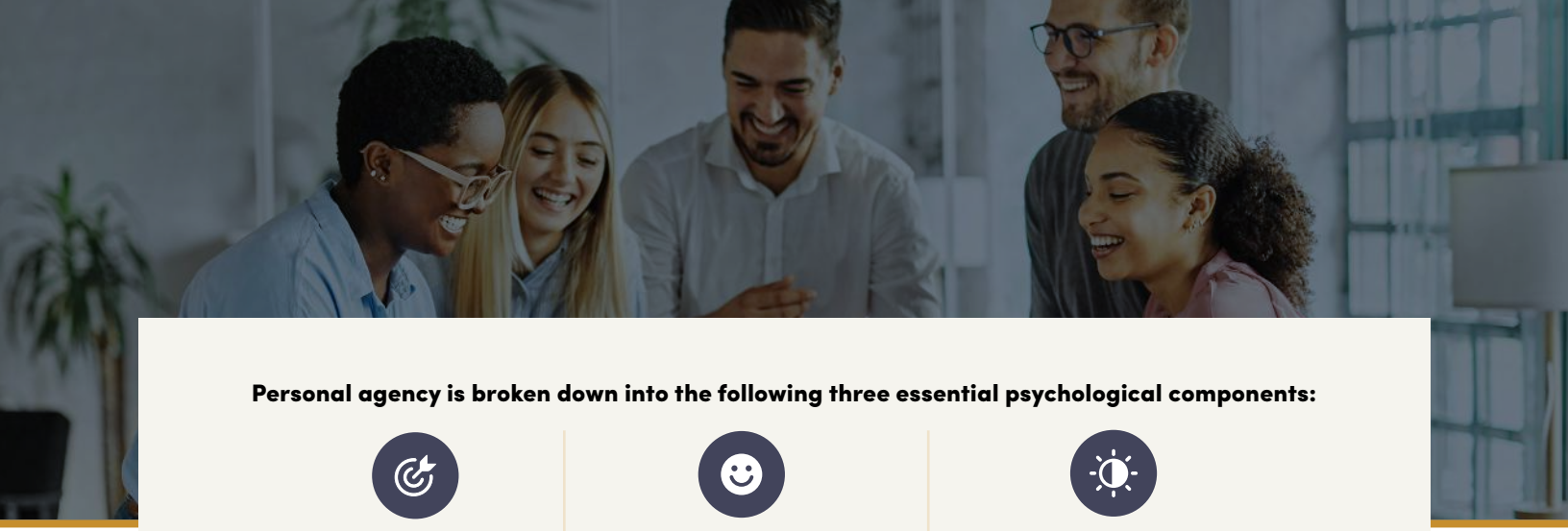
INTRODUCTION 3
- **Seligman's Model of Agency** 3

THE PSYCHOLOGICAL COMPONENTS OF AGENCY 4
- **Efficacy** 4
  - Efficacy Supports Achievement 4
  - Efficacy Supports Adaptive Coping 4
  - Promoting Efficacy 5
- **Optimism** 7
  - Optimism and Goal Persistence 7
  - Optimism Promotes Productive Coping 8
  - Optimism and Disengagement from Unproductive Goals 8
  - Optimism and Acceptance 9
  - Promoting Optimism 9
- **Imagination** 10
  - Prospection 10
  - Mentalizing 12
  - Counterfactual Thinking 12
  - Remembering, Imagination's Close Relative 13
  - Promoting Imagination 14
- **Bringing it All Together** 15

CONCLUSION 16

APPENDIX 17

ENDNOTES 18



Personal agency is broken down into the following three essential psychological components:

EFFICACY
Believing in your ability to complete a goal.

OPTIMISM
Expecting desirable outcomes to happen and believing you will avoid negative outcomes.

IMAGINATION
Visualizing hypothetical situations beyond the present circumstances.

INTRODUCTION

Human beings are a future-oriented species. We spend much of our time planning for the near and distant future and daydreaming about things we hope to accomplish or experience. Personal agency is critical to making our dreams come true. In its simplest form, agency involves feeling free to choose what actions to engage in or what goals to pursue. Philosophers have debated the existence and limitations of agency for centuries. Still, laypeople find consensus in defining agency as free will—the ability to make choices about life pursuits without constraints from external factors.[1]

Seligman's Model of Agency

Psychologists have developed several theories concerning personal agency and dedicated decades of research to determine how people's ability to choose and feel in control of their actions to pursue meaningful life goals impacts human flourishing. Some of these approaches, like self-determination theory and locus of control theory, view personal agency as a basic psychological need necessary for flourishing. According to these perspectives, people flourish when they feel like they can influence the world around them, including whether they feel in control and empowered to accomplish their aims, cope with and overcome trying situations, and contribute to a positive future.[2] Other perspectives, such as grit or hope theory, view agency as an intense focus on accomplishing one's goals critical for achievement and personal progress.[3] The common thread between these and other psychological perspectives is personal agency has profound implications for flourishing. When people have agency, they flourish, but when they lack agency, they flounder.

More recently, psychologist Martin Seligman proposed a theoretical approach that breaks down personal agency into what he proposes are its essential components. Similar to other perspectives, Seligman defines personal agency as a person's belief that he can impact the world around him and pursue his aspirations. Critically, Seligman proposes that global judgments of personal agency are shaped by three interrelated beliefs/attributes: efficacy, optimism, and imagination.[4] Understanding these components of agency can give deeper insight into how personal agency facilitates flourishing and help uncover and develop strategies to promote it.

This report utilizes Seligman's conceptual framework of personal agency to review research on the role of efficacy, optimism, and imagination in human flourishing. Given the importance of agency for human flourishing, the report will also suggest recommendations based on psychological research for strengthening agency by promoting efficacy, optimism, and imagination.

EFFICACY
Believing in your ability to complete a goal.

EFFICACY

Efficacy, which refers to a person's belief in their ability to do what it takes to achieve a desired goal, is the first component of agency. Efficacy is an important aspect of agency because selecting and choosing a goal does not always result in action. For example, New Year's resolutions are a popular way for people to adopt healthful behaviors. Yet, research indicates that just over half of people successfully stick to their New Year resolutions a year later.[5] People would like to or think they ought to engage in many actions, like getting regular exercise, but do not, despite their best intentions. This type of observation led psychologist Albert Bandura to propose efficacy as a central aspect of agency crucial for initiating and persisting in goal-related behaviors.[6] Simply put, people may choose goals they think will benefit them, such as getting regular exercise, but fail to initiate or persist in exercise because they are not confident in their physical abilities and question their self-discipline. In contrast, efficacious people with goals such as getting regular exercise will be more likely to get started with a workout plan and be more successful at sticking to the workout plan even when encountering challenges and setbacks.

Efficacy Supports Achievement

Indeed, countless research studies have demonstrated that efficacy is a robust predictor of goal-related behavior and success in various life domains, such as education, athletics, and the workplace. In education, a meta-analysis summarizing the results of dozens of studies on the link between efficacy and academic outcomes showed that college students with high academic efficacy (i.e., those with an enduring belief that they have what it takes to succeed in college) were more committed to and exerted more effort in the academic efforts and as a result earned higher grades than less-efficacious students.[7] Similarly, a meta-analysis on the link between efficacy and athletic performance demonstrated that efficacious athletes performed better on subjective (e.g., coaches' ratings) and objective (e.g., 50-yard dash time) measures of effort and performance.[8] Finally, organizational research has provided evidence that efficacy beliefs about job ability predicted work motivation and performance; efficacious employees were more absorbed in their work, more receptive to supervisor feedback, and more successful at attaining work-related goals.[9] This research suggests positive efficacy beliefs contribute to flourishing by sparking action and helping people persist in pursuing significant life goals.

Efficacy Supports Adaptive Coping

Efficacy helps people flourish because it is a critical psychological resource for coping with life's challenges

and tragedies. Research has shown that high-efficacy people are more resilient; they engage in more healthful coping strategies and are less likely to develop mental illness as a result of chronic or traumatic stress. One study, for example, examined the link between efficacy and depression by following older adults (i.e., those 65 and older) over a year as they navigated the challenges associated with aging. This study found that older adults who were confident in their ability to cope with challenges related to aging were more likely to rely on healthful coping strategies, like reaching out to friends and family for support, and less likely to experience new or worsened depression.[10] Similar research suggests that efficacy beliefs are crucial for managing daily stressors to maintain psychological well-being and avoid mental illness. One study followed adults for three years and found that those with positive efficacy were less likely to report reduced well-being and increased anxiety and depression symptoms because of daily stressors.[11] Efficacy also plays a vital role in coping with traumatic stress.[12] Specifically, research has found efficacy to be protective against developing Post-Traumatic Stress Disorder in response to traumatic events such as sexual violence, natural disasters, and mass shootings. Once again, efficacious people are more resilient because they are adept at making use of adaptive coping strategies to manage traumatic stress. Finally, research has found that efficacy is vital for people with chronic physical ailments. For example, a meta-analysis of 86 studies of chronic pain sufferers showed that efficacy beliefs were associated with fewer reports of functional impairment, lower levels of severe pain, and less emotional distress as a result of chronic pain.[13] Other studies have provided evidence that strong efficacy beliefs are associated with better health outcomes among people with conditions such as cardiovascular disease, diabetes, HIV, and chronic obstructive pulmonary disease or COPD.[14] Efficacious people can identify and persist in adaptive coping strategies to prevent psychological distress from becoming psychological dysfunction and are better able to manage their chronic diseases by engaging in healthful behaviors and persisting in their treatment plans.

Promoting efficacy

Since efficacy is crucial for maintaining and managing psychological stress to maintain psychological health, researchers have sought ways to foster it. Bandura outlined four ways to strengthen efficacy. Specifically, he proposed that efficacy can be strengthened by experiencing goal success (which he called mastery experiences), by adopting positive emotional appraisals, by watching others similar to themselves achieve goal success (which he called vicarious experiences), and by receiving verbal encouragement.[15] There is evidence supporting each of the four ways to strengthen efficacy and research on interventions that use two or more strategies to promote efficacy.

Promoting Efficacy via Mastery Experiences. Success is the most potent way to build efficacy beliefs. Simply put, people's confidence in their ability to accomplish their goals grows when they see themselves making progress. Therefore, researchers have developed and tested formal interventions to put people in situations where small successes build the efficacy needed for larger, more continuous success. For example, Bandura's early work focused on promoting efficacy for phobic patients. This work provided evidence that exposure therapies wherein phobic patients start with small exposure to fear-related stimuli and then gradually build up to more exposure were successful in helping people overcome debilitating fears because they built efficacy over time. Specifically, snake-phobic patients practiced previously learned coping strategies while being exposed to snakes on several occasions, each occasion bringing them closer to the snake for more extended periods. Over time, patients felt more confident in using coping strategies to manage their fear. As patients' efficacy grew, their physiological fear response decreased. Their ability to tolerate, be close to, and touch the snake increased, supporting the claim that firsthand success can strengthen efficacy and promote psychological well-being and thriving.[16] Other research has also found personal success to be effective in building efficacy beliefs and, in turn, improving mental health. For example, Yeager and Benight found that a computer application designed to help trauma survivors manage post-traumatic stress symptoms was effective in reducing symptoms because it built efficacy for coping with stress by allowing patients to learn about and practice coping strategies. In other words, users were able to observe their success using coping strategies via feedback from the application, which made them more confident and successful in managing their post-traumatic symptoms.[17]

Promoting Efficacy via Emotional Appraisals Firsthand experience is not the only way to build efficacy. Teaching people to reframe how they think about apprehension can also strengthen efficacy. Bandura asserted that efficacious people naturally interpret their

feelings leading up to action differently than less-efficacious people, which helps them rise to the challenges they face.[18] For example, an efficacious athlete is more likely to positively interpret the natural physiological arousal before a big game as excitement. In contrast, a less-efficacious athlete is more likely to interpret it as fear. With success, though, the inefficacious athletes are expected to change their appraisal as they associate the pre-game arousal with positive outcomes. Even without success, research indicates that people can be taught more positive ways of interpreting their feelings. This more positive appraisal of arousal aids in developing efficacy because people use physiological and emotional states as information for making judgments about themselves and their capabilities. So, when people learn to interpret their nervousness as anticipation rather than fear, their nervousness becomes a source of inspiration to act rather than a cue to retreat.[19]

Promoting Efficacy via Vicarious Experiences. Convincing people of their potential to succeed can also be a source of efficacy. This can be accomplished vicariously by modeling strategies for successful action or showing examples of people like themselves succeeding. A campaign in the United Kingdom called "This Girl Can" supports the idea that vicarious experiences can build efficacy and inspire action. "This Girl Can" is a multimedia campaign encouraging girls and women to engage more in physical activity by depicting everyday women exercising or participating in sports. Research on the campaign's effectiveness revealed that young women reported that the campaign made them feel more confident about trying new forms of exercise and inspired to engage in more physical activity.[20]

Promoting Efficacy via Verbal Persuasion. Another way to convince people they have what it takes to succeed is via verbal persuasion. For example, a well-researched group intervention called "Hope Therapy," designed to promote hope and other positive self-appraisals, contains self-affirmation exercises where individuals receive feedback from facilitators and peers on their capabilities to accomplish important personal goals. Additionally, "Hope Therapy" trains people to engage in self-affirmations to quiet moments of self-doubt. Research supporting the impact of "Hope Therapy" has found that verbal affirmation from others and oneself significantly promotes efficacy. "Hope Therapy" typically consists of eight-weeks' worth of weekly group training sessions, and research has shown that participants reported stronger feelings of efficacy during and after the eight weeks.[21]

Combining Strategies to Promote Efficacy. Ideally, strategies to strengthen efficacy should involve all four of the aforementioned efficacy sources: successful experiences, positive emotional appraisal, vicarious experiences, and verbal persuasion.[22] One example is a computer-based reading fluency application developed by Aro and colleagues for 3rd- to 5th-grade students. The application gave students regular feedback on their growth for the twelve-week education program. Teachers encouraged students to be mindful of their progress by writing examples of their success. Teachers also promoted positive emotional appraisals by having students complete emotional checklists after each session. Aro and colleagues designed the program to strengthen efficacy vicariously by placing students in situations where they could observe and take note of their classmates' growth. Finally, the students received verbal persuasion from instructors who gave them encouraging feedback that affirmed their growth and reading abilities. The intervention proved to be successful in strengthening efficacy and reading fluency.[23] Beyond education, formal interventions have been designed in several other domains, such as health and parenting, to increase efficacy around engaging in healthful behaviors and parenting strategies.[24] Even without formal interventions, people can build efficacy throughout their everyday experiences. Reminiscing about experiences of success, for example, has been found to give people the quick boost of efficacy they need to pursue personally important goals.[25] Moreover, there is consistent evidence that simple self-affirmations strengthen efficacy and inspire goals.[26]

OPTIMISM

Expecting desirable outcomes to happen and believing you will avoid negative outcomes.

OPTIMISM

Once people believe in their ability to pursue and accomplish important life goals, they can imagine a more positive future. Seligman identifies optimism as the second component of agency that broadly describes a person's general expectation that he or she will achieve desirable outcomes and avoid negative ones. Optimism promotes action by serving as a generalized source of motivation that helps people initiate goals and persist toward completion. People commit to goals when they sense achievement is possible and continue when they expect good things from their actions.[27] Indeed, Monzani and colleagues tracked the personal goal commitment and progress of working adults who scored high and low in optimism for two months. Like most optimism researchers, Monzani and colleagues used a self-report survey measure to assess optimism, the "Revised Life Orientation Test" (LOT-R).[28] The LOT-R is the most commonly used measure of optimism in psychological research. Respondents indicate the extent to which they agree with a series of six statements, such as, "Overall, I expect more good things to happen to me than bad," using a numbered scale (e.g., 1 = strongly disagree to 5 = strongly agree).[29] Using this measure, Monzani and colleagues found that those who scored high in optimism were more committed to an important personal goal and felt they accomplished more at the end of two months than those who scored low in optimism.[30]

Optimism and Goal Persistence

It is common for people to experience failures, setbacks, or difficult times when pursuing their goals.[31] This negative feedback has the potential to undermine motivation. However, agency is typically not so fragile to be easily deterred; people can receive negative feedback and maintain persistence, and sometimes, negative feedback pushes them to work harder at their goals. This ability to maintain a strong sense of agency despite challenges is because optimism is a disposition, like a personality trait. Optimists have strong and stable expectations for a positive future that can reignite their motivation when they experience challenges, which is essential for pursuing long-term goals such as educational or career goals. Indeed, longitudinal research found that students who scored high in optimism at the start of college maintained stronger motivation and were better at managing stress during their first year. This ability to maintain motivation and manage stress translated to success; optimistic students earned higher grades at the end of their first year.[32]

Research on law students further demonstrates optimism's capacity to inspire the resilient pursuit of goals. First-year law students who scored high on a dispositional optimism measure maintained a commitment

to the conflicting goals of maintaining social relationships and rising to the new academic demands of law school, even though doing so resulted in more stress. In contrast, students who scored low in optimism were likely to reduce their effort in one of the goals and, in turn, experienced less stress.[33] A separate study found optimistic law students were more successful in their careers after ten years than pessimistic students.[34] Finally, a study with residents in a public housing project found that people who maintained optimism despite the challenges their community faced were more likely to take specific action for the betterment of their community, like attending public meetings and volunteering to help with a community function.[35] Overall, optimism helps people sustain the motivation to pursue long-term goals and persist during challenging times. As a result, optimists are more successful.

Optimism Promotes Productive Coping

Optimists persist in their goals because they use effective strategies to manage stress and are less likely to adopt unproductive tactics. One study, for example, followed first-year college students for three months to explore the strategies they employed to adjust to college life. The researchers measured optimism and two coping strategies: active and avoidant strategies for managing stress. Active strategies were problem-focused tactics, such as looking to resolve the source of stress and reaching out to others for instrumental or emotional support. Avoidant coping strategies were tactics to avoid reminders of stress by using substances or other distractions. Optimists (i.e., students who scored high in optimism) were likelier to engage in active coping strategies for managing stress in the first three months of college, whereas pessimists (i.e., students who scored low in optimism) were likelier to employ avoidant tactics.

Optimists' greater reliance on active rather than avoidant strategies translated to better adjustment to college; optimists reported greater happiness and satisfaction in college and were less overwhelmed by the academic rigors of college.[36] Further, a metanalytic study summarizing the findings from fifty research studies confirmed that people with higher levels of dispositional optimism are more inclined to adopt active coping strategies to manage stress or regulate negative emotions and less inclined to engage in avoidance coping strategies.[37] Optimistic peoples' greater use of active versus avoidance coping strategies helps them avoid serious mental illness and lead healthier lives. Optimists approach their physical and mental health goals directly by taking preventative health measures, mobilizing social support, and following treatment plans. Moreover, their capacity to effectively manage stress with active coping strategies reduces their risk of experiencing worry/anxiety and developing stress-related diseases as they pursue meaningful life goals.[38]

Optimism and Disengagement from Unproductive Goals

Sometimes, it may be better to disengage from our goals than persist in them. For example, an aspiring medical student who repeatedly fails fundamental science courses might be better off changing to a non-science major and choosing an alternate career path. Research indicates that optimists are better at knowing when to selectively disengage. Aspinwall and Richter gave college students twenty minutes to complete a set of anagrams to test their verbal intelligence. The students could stop at any time but were encouraged to persist until time ran out. Unbeknownst to the college students' participants, some anagrams were unsolvable. Even though most students persisted until the end of the twenty minutes, students scoring high in optimism spent less time on the unsolvable puzzles overall. They were also quicker to give up on unsolvable problems to work on the solvable ones, compared to students scoring low in optimism. In other words, optimists worked more efficiently; they knew when to give up on a seemingly impossible task to work on a more manageable one and, as a result, were more successful.[39] Other research indicates optimists' ability to selectively disengage helps them pursue long-term goals such as sticking to a workout plan, earning a college degree, and maintaining friendships.[40] Taken together, having a strong expectation for a positive future helps people direct their efforts to productive and satisfying goals.

Optimists may be quicker to disengage from unproductive action because they are more attentive to and take more seriously negative self-relevant feedback. One study looked at this in the domain of negative feedback about health behaviors. Researchers recruited college students who suntanned regularly and, as part of a research study, had them read and consider information on the health benefits (e.g., increasing vitamin D) and risks (e.g., skin cancer) of exposure to ultraviolet (UV) rays. Unbeknownst to the participants, the researchers tracked how long they read the positive and negative information on UV exposure. Compared to students scoring low in optimism, students scoring high in optimism spent more time reading information about the health risks of exposure to UV rays. Moreover, optimists spent more time reading about the risks

than the benefits. Finally, as they read the negative information, optimists spent more time thinking about how it applied to themselves.[41] Attending to negative information is essential for gauging risk and taking proactive measures to avoid or escape negative situations. Research has found that optimists are more prepared for potential disasters and quicker to escape hostile environments.[42] Optimists' enduring positive disposition allows them to consider negative information appropriately rather than thinking it too threatening and avoiding or denying it. Optimists can then use this information to act in ways that ensure a positive future.

Optimism and Acceptance

Armed with positive expectations for the future, optimists can pursue meaningful life goals and mobilize efforts to prepare for and successfully escape potential disasters. However, sometimes, our problems cannot be solved, like in the case of a terminal diagnosis. Optimism is predictive of adaptive coping even in these uncontrollable situations. Acceptance is a psychologically healthy way of coping with situations people have little to no control over. For example, people may use religion or humor to deal with uncontrollable circumstances.[43] Optimism is associated with acceptance coping. For example, research studies on cancer patients, HIV-positive individuals, and chronic pain sufferers have found that those who scored high on dispositional optimism were more accepting of their conditions and used humor and other adaptive tactics to manage negative thoughts and emotions.[44]

Promoting Optimism

Given the importance of optimism for flourishing, it would be helpful to identify strategies to promote it. Generally, research on this topic is limited. Compared to efficacy, which is domain-specific and based on experience, optimism is assumed to be a belief that transcends the immediate situation and is stable, like a personality trait. In support of this view, research has provided evidence for a strong genetic component of optimism. Specifically, studies on identical twins have estimated that genes account for around 25% of the variability in optimism scores.[45] Other research indicates that childhood environments are also a factor in determining optimism, providing evidence that childhood socioeconomic status was more strongly predictive of optimism in adults than the adult's current socioeconomic status.[46] There is some evidence, however, that optimism can change. Longitudinal research, for example, indicates that people tend to become more optimistic with age.[47] Martin Seligman argues that optimism is a mindset built over time that can be altered using strategies similar to Cognitive Behavioral Therapy. Specifically, through self-talk exercises, people can learn to identify pessimistic thoughts and interpretations and practice engaging in more optimistic thinking and explanatory styles.[48]

Imagining one's best possible self is an example of an effective self-talk exercise to promote optimism. The Best Possible Self intervention is a visualization exercise where respondents imagine themselves in a future where they have realized their most important personal, professional, and relational goals. In addition to imagining the goals, participants develop a writing piece, like a diary entry, which tells a personal story describing these goals and how they will achieve them. Research testing the effectiveness of the Best Possible Self intervention had participants complete an instructional session on the visualization exercise and instructed them to practice it five minutes daily for two weeks. Compared to a control group of participants who completed a daily activities visualization task, those who practiced the Best Possible Self intervention reported greater optimism immediately after the initial session and over the two weeks. Moreover, the researchers found that changes in positive mood could not fully explain these increases in optimism.[49] Seligman argues that a more optimistic thinking style becomes more dominant and automatic with time and repetition of these self-talk exercises. According to personality theories, once these more optimistic thinking and explanatory styles are dominant and automatic, they become stable.[50] Individuals and institutions can promote agency by teaching and encouraging simple self-talk practices to strengthen optimism.

IMAGINATION
Visualizing hypothetical situations beyond the present circumstances.

IMAGINATION

According to Seligman's model, imagination is personal agency's third and final component. Imagination involves the hypothetical or future choices that a person makes. Specifically, imagination is the capability or tendency to visualize hypothetical situations beyond the present.[51] Imagination involves prospection, which refers to thinking about upcoming actions or the future more generally; as well as counterfactual thinking, which consists of visualizing hypothetical "what if" scenarios; and mentalizing, which involves the ability to imagine what other people might be thinking, feeling, or intending with their actions. Research indicates that people spend a considerable amount of time imagining. Neuroscience researchers coined the term "default mode network" to describe the pattern of brain activity they observed when research participants were resting between mental tasks. They later realized that the default mode network is active any time a person is engaged in self-reflection or imagination.[52] In other words, when a person is not directing her attention to a stimulus, it is often spent imagining. This tendency to imagine is adaptive since imagination plays a vital role in goal-related motivation, persistence, and success.

Prospection

Perhaps the most apparent role imagination plays in goals is that it enables us to visualize what we want our lives to be in the immediate and distant future. Prospection is the mental process of imagining possible futures. Highly motivated and successful people live their lives aspirationally, thinking about, planning, and working toward a meaningful or valuable future. Imagining oneself in a positive future is emotionally rewarding. In fact, research indicates that imagining possible future scenarios evokes stronger positive emotions than remembering pleasant experiences.[53]

Prospection Motivates Growth and Achievement. Prospection plays a critical role in motivation as a potent way to evoke positive feelings. Positive emotions such as happiness or excitement trigger approach motivation, a motivation style where people are sensitive to rewards and driven toward growth and achievement as a way of accomplishing their goals. In motivation research, approach motivation is contrasted with avoidance motivation, which is a motivation style where people are compelled to avoid loss and failure as a means of accomplishing their goals. For example, an employee vying for a promotion with an approach-oriented motivation style will be driven toward pursuits that will allow him to grow or showcase his skillset.

In contrast, an employee with an avoidance-oriented motivation style will be compelled to act in ways that try to avoid failure and embarrassment. Research indicates that approach-oriented motivational styles, compared to avoidance-oriented ones, are associated with achievement in various domains, including education, career, and athletics, and are predictive of life satisfaction and psychological health.[54] Approach-oriented people are more successful because they view challenges and uncertainties as opportunities for growth rather than threats. For example, it is common for people to view emerging technologies, like Artificial Intelligence (AI), as threatening because of the uncertainty regarding their impacts and applications.[55] Research suggests that imagining the benefits of AI and other emerging technologies reduces people's hesitation to use them, partly because prospection helps people see the growth potential of new technology.[56] Fantasizing about a positive future excites people and inspires them to pursue achievement and growth.

Prospection Sustains Motivation by Helping Us See the Value of Our Goals. Prospection also sustains motivation by reminding us why our pursuits are personally significant.[57] Motivation research suggests that self-determined motivation is the most potent driver of continued action. Self-determined motivation stems from a person's internal desires and values rather than external praise, rewards, or coercion. For instance, individuals are more motivated to exercise if that goal is derived from their internal desire to be healthy than from feeling pressured by others to work out. Imagining an idyllic future for ourselves helps sustain self-determined motivation because it reminds people of the personal significance of their goals.[58] When people are aware of the importance of their actions and the value of their goals, they are less likely to be deterred by temptation. Research on decision-making has documented a phenomenon known as delay discounting, which describes a tendency for people to prefer smaller, immediately available rewards over larger future rewards, particularly in scenarios with costs associated with waiting, such as uncertainties, discomfort, or pursuits that require lots of effort.[59] For example, a college student may fail to study for a difficult exam because, at the moment, a fun video game seems more valuable than the satisfaction of a high exam grade later on. Research has shown that prospection reduces delay discounting. Specifically, two studies found that thinking of future events activated brain structures involved in decision-making, helping people overcome the tendency to overvalue small immediate rewards over more substantial delayed rewards.[60] Thus, imagination reminds people about why their goals are important and allows them to avoid the temptation of immediate gratification in favor of continued action toward long-term, satisfying goals.

Prospection Sustains Motivation via Planning and Creative Solutions for Challenges. Some of life's most meaningful goals, such as raising children or starting a business, are challenging and involve considerable stress.[61] Imagining a positive future reminds people of the value of their goals, which motivates them to persist despite the inconveniences or challenges they pose.[62] People also use prospection to help them identify and plan for potential challenges, and doing so encourages people to continue in difficult but important life goals and embark on new challenging goals. One study, for example, recruited female medical students who had future aspirations of a successful medical career and a fulfilling family life. The medical students were asked to engage in one of two kinds of prospection. Whereas one group imagined a future where they achieved their ideal work-life balance and the challenges they will face, the second group was instructed to imagine their ideal future without considering challenges. Compared to the students who fantasized about the future without considering the challenges, the medical students who imagined their ideal work-life balance and considered the challenges they would face expressed greater confidence and a stronger drive to make their ideal future a reality.[63] Other research has found this type of prospection, which involves fantasizing about a positive future and considering realistic challenges, encourages persistence in friendships/relationships, education, health-related changes, learning, and self-improvement programs.[64]

Prospection also helps people come up with creative solutions to problems. For example, research indicates that imagining the future puts people in an expansive mindset where they can think abstractly about problems to develop innovative solutions.[65] Imagining positive futures, in particular, is likely to engender strong positive emotions that encourage people to think creatively, take risks, and engage in new activities that promise growth opportunities.[66] People who dedicate more time to creating creative and flexible pathways for achieving their goals are better able to stay committed to them and are more successful in various life domains, including work, school, athletics, parenting, and interpersonal relationships. Moreover, interventions that coach people to map out and visualize pathways to achieving their goals have effectively promoted positive goal expectations for goal success and encouraged resilient coping strategies.[67]

Mentalizing

People rarely pursue goals on their own; they often work in groups or, at minimum, receive instrumental or emotional support from others. Mentalizing is a critical dimension of imagination that is necessary for relating with other people. Mentalizing describes imagining other people's thoughts, feelings, attitudes, intentions, and goals.

Mentalizing Helps Form and Maintain Social Relationships. In its basic form, mentalizing helps people form and maintain relationships. We must accurately understand what other people think and feel to respond to their needs and desires. Moreover, mentalizing helps us predict other people's behavior to respond to their needs proactively and, if necessary, intervene to direct their actions.[68] Doing so can help further endear us to others and help make successful partnerships and collaborations. For example, when working on a group project, mentalizing helps us predict when our partners need motivation or inspiration and be ready with words of encouragement or their favorite coffee. Much of what psychologists know about the importance of mentalizing for interpersonal relations comes from research on children on the autism spectrum. This research indicates that deficits in mentalizing explain the social-emotional and communicative deficits of autism.[69] Thus, people with diminished mentalizing have difficulty relating to and communicating with others.

Mentalizing Facilitates Productive Group Work. Mentalizing enables individuals to work effectively in groups to achieve their goals. A person with an innovative plan must persuade others to support it, and research suggests that persuasion is stronger when one accurately anticipates what the audience will find compelling.[70] By engaging in mentalizing, individuals can tailor their arguments, evidence, and structure to maximize their impact.[71] Relatedly, effective group work might involve negotiation. The group may be split between two courses of action but must work to reach a consensus on a single course of action. When bargaining, a person might try to imagine and predict the collective thoughts and intentions of the opposing party. This type of mentalizing can help generate a third course of mutually beneficial action or identify areas for compromise.[72] Finally, productive group work also requires that a person understand what others are feeling or thinking about a course of action or the group's progress. For example, suppose a person doubts the viability or quality of a plan of action. In that case, she may fail to assert her concerns if she inaccurately imagines her collaborators disagree.[73] Groups arrive at effective decisions when individuals feel they can trust their collaborators are not deliberately manipulating or misleading them. Mentalizing plays a critical role in lie detection.[74] For example, research has shown that children and adults with autism spectrum disorder performed worse at a lie detection task compared to neurotypical children and adults.[75]

Mentalizing Facilitates Learning. Learning is perhaps the most crucial benefit of mentalizing. People learn by watching and imitating others, especially young children, before developing sophisticated language and reasoning skills.[76] Imitative learning plays an integral role in transmitting cultural knowledge and innovation. Imitation requires an understanding of intention; an observer must understand an actor's goal and imagine how the actor's actions lead to fulfilling that goal. The observer then applies the actor's action plan to achieve the same goal. Innovation occurs once the observer understands how the action plan achieves the goal and imagines and experiments to make minor changes to the plan to achieve the same goal.[77]

Counterfactual Thinking

Counterfactual thinking is another form of imagination that is important for flourishing. Counterfactual thinking involves imagining things that could have happened "if only" things were different than reality. Counterfactual thinking helps people develop strategies for goal success and make sense of and grow from failure.[78]

Counterfactual Thinking Promotes Effective Goal Strategies. Counterfactual thinking is thought to play a role in goal success by allowing people to anticipate what actions might lead to success and failure. People develop strategies for goal pursuits by running mental simulations of goal strategies. Counterfactual thinking helps people identify how their approach needs to be changed to maximize success. Indeed, research suggests that people who engage in counterfactual thinking more often tend to be more productive and successful in their goal pursuits.[79] Moreover, research suggests that counterfactual thinking helps people persist in challenging goals such as quitting smoking. Psychologists recognize two types of counterfactual thoughts: additive counterfactual thoughts and subtractive counterfactual thoughts. Additive counterfactuals explain how an outcome could be better if some aspect were changed (e.g., "I would have aced that interview if only I had a better answer for that one question"), whereas subtractive counterfactuals explain how an outcome could be worse if some aspect of the past were different (e.g., "I would have bombed that interview if I had not had a good answer for that question"). Generally, additive coun-

terfactuals are regarded as the more adaptive form of counterfactual thinking for flourishing because additive counterfactuals help people attain positive outcomes.[80] However, subtractive counterfactuals may be helpful in high-stakes situations.[81]

Finally, the capacity for counterfactual thinking to fuel effective goal strategies appears somewhat automatic and quite broad. Specifically, research showed that mere exposure to counterfactual statements increased the speed at which people intended to change their behavior in a quick-decision task when they were not given time to deliberate.[82] Other research indicates that engaging in counterfactual thinking in one domain, like, "I should have brought an umbrella so I wouldn't have gotten wet," can motivate intentions and action in an unrelated domain, like studying for an upcoming exam.[83] This broad impact of counterfactual thinking is because it puts people in a "counterfactual mindset" where they are generally motivated to find ways to improve their lives.

Counterfactual Thinking Helps People Avoid Unnecessary Self-blame. In addition to helping people formulate and adjust goal strategies, counterfactual thinking helps people make sense of failure to avoid unnecessary self-blame.[84] People derive self-esteem and confidence from success, but failure can threaten self-esteem. Counterfactual thinking can preserve self-esteem by helping people make sense of failure. This is useful when people experience bad outcomes outside of their control. For example, one study had college students choose to invest hypothetical money in one of three car companies based on minimal information about the company's practices and recent sales performance. Then, the researchers informed the participants whether their chosen investment made or lost money for reasons outside their control. Research participants who lost money made more counterfactual explanations for the failure (e.g., "If I had known more about the company, I would not have invested in it"), and doing so helped them not to blame themselves for the uncontrollable loss.[85]

Counterfactual Thinking Helps People Grow from Failure. Counterfactual thinking also helps people learn and grow from failure. People experience guilt and regret when imagining how things could have been better if they had made a different choice and experience shame when they feel they could have made a better choice or experienced a better outcome if it were not for an aspect of their personality or disposition.[86] Research found that participants reported stronger intentions to change themselves after remembering experiences of guilt and stronger intentions to try to make up for or apologize for past misdeeds after remembering experiences of pain.[87] Thus, counterfactual thinking helps people learn from their mistakes and motivates efforts to improve oneself. Of course, guilt, shame, and regret could also lead to persistent self-blame, which undermines psychological well-being and thriving and could contribute to anxiety, depression, and post-traumatic stress disorder. In these situations, therapeutic techniques can help people achieve more balance of counterfactual thinking by empowering them to imagine how things could be worse and teaching them strategies to inhibit negative counterfactual thoughts.[88]

Counterfactual thinking helps people grow from failure by assisting with planning.[89] Research suggests that people reflexively generate counterfactual explanations when they experience setbacks, failures, or losses.[90] Additive counterfactual thoughts after a failure help people come up with new strategies to pursue their goals.[91] For example, research showed that college students who were asked to come up with additive counterfactuals about their recent academic failure generated more strategies to prepare for an upcoming exam and expressed stronger motivation to study compared to students who did not engage in counterfactual thinking.[92] Other research has shown that counterfactual thinking helps improve performance. One study, for example, showed that additive counterfactual thinking helped people learn and develop effective strategies to succeed and persist in a strategic reasoning and decision-making game.[93] Another study had research participants attempt to land a virtual aircraft in Microsoft Flight Simulator, finding that participants asked to engage in counterfactual thinking after their failed efforts improved their performance faster than those who did not.[94] Developmental research suggests that children as young as four years old can understand counterfactual scenarios, and research has shown that counterfactual thinking improves performance on reasoning tasks in children as young as six.[95]

Remembering, Imagination's Close Relative

Imagining counterfactual alternatives to learn from past experiences is not the only way thinking about the past may promote thriving. Neuroscientific evidence indicates that episodic memory and imagination are closely related, sharing many of the same brain networks. Moreover, cognitive research suggests that episodic memory is less than a replaying of events and more of an imaginative process; people recall seman-

tic knowledge of the event, like what happened, who was there, what it looked like and felt like, and use it to recreate the experience in their mind.[96] Being that remembering and imagining are similar phenomena, it should not be surprising that remembering can inspire people to pursue and persist in important life goals. Specifically, research on personal nostalgia, which involves mentally revisiting personally meaningful events, has shown that remembering is a future-orienting experience.[97] For example, research has shown that after thinking about a nostalgic event from their past, people reported feeling generally more inspired and specifically more motivated to pursue meaningful goals.[98] Personal nostalgia has also been shown to encourage creativity, social connection, persistence in physical activity, and openness to new technology.[99] Remembering the past via personal nostalgia encourages future action by promoting well-being and serving as a potent reminder of one's strengths, the meaning/purpose of one's life, and that one is connected with and supported by one's friends and family. Personal nostalgia is triggered by stress, loneliness, and uncertainty, and engaging in this kind of remembering provides the comfort, strength, and confidence to flourish.[100]

Promoting Imagination

Promoting imagination is not so much encouraging a positive belief as it is with efficacy and optimism; instead, promoting imagination involves getting people to engage in imagination more. For example, research has shown that depressed people are less likely to imagine positive future events compared to non-depressed people. This finding is not because depressed people are overly negative about the future or because imagining positive events does not bring them joy.[101] Thus, therapeutic interventions and therapeutic approaches have been developed to encourage depressed people to engage in positive prospection so they can reap the well-being and motivational benefits of positive prospection more regularly. For example, Future Directed Therapy (FDT) is a clinical intervention for depression similar to Cognitive Behavioral Therapy that looks to orient people toward imagining a positive future by first identifying negative emotions and realizing that negative emotions result from being focused on undesired aspects of their life. Rather than spending limited mental resources on undesired elements of life, FDT teaches people to direct their attention to the future and what they can do to realize a positive future by setting goals, planning strategies, problem-solving, and engaging in constructive counterfactual thinking. Research on the effectiveness of FDT found that depressed patients reported improvements in depression and anxiety symptoms as well as increased well-being after completing the twenty 90-minute group sessions of FDT twice over ten weeks. FDT patients also reported more significant improvements in depression symptoms than patients treated with a standard cognitive-based group therapy over the same period.[102]

Other therapeutic future approaches promoting adaptive imagination include Hope Therapy and existential psychotherapies. Hope Therapy is a goal-focused group therapy. Patients learn and practice setting measurable and achievable goals and visualization exercises to map goal pathways and strategies. Hope Therapy has been found effective in reducing depression and anxiety. It is particularly helpful for people facing significant life challenges, such as living with a chronic or terminal disease, being a caregiver, or struggling with addiction.[103] Existential forms of psychotherapy promote positive prospection by focusing on what gives life purpose. Research has found that this focus on meaning in therapy is beneficial, showing that imagining a meaningful life was predictive of a positive response to psychotherapy and reduced risk for new and worsening depression.[104] Other research indicates that interventions designed to get people to imagine what goals give their life purpose are effective in helping people achieve their academic goals, stick to fitness plans, and moderate alcohol consumption.[105] Getting people to imagine a positive future more often is an effective strategy to promote flourishing.

Seligman argues that the three independent dimensions are interconnected. Specifically, he argues that personal agency is strongest when efficacy, optimism, and imagination function optimally. Research generally supports that the dimensions are interlinked.

BRINGING IT ALL TOGETHER

Thus far, I have defined each of Seligman's three dimensions of agency (i.e., efficacy, optimism, and imagination) individually and reviewed evidence on their respective role in flourishing. I have also discussed empirically supported strategies to strengthen them. However, Seligman argues that the three independent dimensions are interconnected. Specifically, he argues that personal agency is strongest when efficacy, optimism, and imagination function optimally. Research generally supports that the dimensions are interlinked.

Much research, for example, has looked at the relation and the unique predictive value of efficacy and optimism because they appear so closely related. Both involve positive beliefs about the future, yet theorists contend they are distinct because their focus differs. Optimism is a person's global belief that he can expect good things in the future. In contrast, efficacy is a situational or domain-specific belief. Seligman further contends that their time perspective is different, with optimism being more focused on the distant future and efficacy more of a belief about one's ability to succeed at goals in the more immediate future.[106]

Researchers have developed survey measures of efficacy and optimism that attempt to tap into these theoretical distinctions. The Life Orientation Test (LOT-R), the most frequently used measure of optimism in psychological research, asks respondents to rate their agreement to six statements worded to reflect people's general as opposed to situational beliefs (e.g., I am always optimistic about my future).[107] In contrast, Albert Bandura, the pioneer behind self-efficacy theory, recommended creating context-specific survey measures of efficacy.[108]

Using these optimism and efficacy survey measures, researchers have shown that people's responses to these measures correlate; optimistic people tend to report higher self-efficacy. Despite this correlation, research indicates optimism and efficacy uniquely predict psychological well-being, coping, and goal-related achievement.[109] Thus, efficacy and optimism are associated with one another but distinct dimensions of personal agency.

Research also shows that imagination is strongly associated with efficacy and optimism. First, imagining future success has been shown to bolster optimism and efficacy. Specifically, I reviewed self-talk strategies to promote optimism in the optimism section, like the Best Possible Self intervention, which relies on imagining an ideal future.[110]

Other research indicated that people expressed more optimism about the future when they imagined a distant positive future and that repeatedly imagining a positive future event increased optimism for the event occurring.[111] Imagining a distant future appears to put people in an optimistic mindset that anything is possible. Imagination can positively impact efficacy. In the efficacy section, I discussed the following four strategies to promote efficacy: successful experiences, positive emotional appraisal, vicarious experiences, and verbal persuasion. Vicarious experiences and verbal persuasion are two methods that rely on imagination. Verbal persuasion, for example, is most effective in promoting efficacy beliefs when combined with visualization of how one will accomplish their goals.[112] In other words, hearing others tell you that you can succeed is more powerful when you can imagine the pathway you will take for success. As I mentioned earlier, strengthening efficacy through vicarious experiences involves observational learning, which relies on mentalizing.

Finally, research suggests that prospection highlights valued aspects of self and, in doing so, promotes efficacy beliefs.[113] In two separate studies, for example, research participants felt more confident about themselves and their abilities when they imagined who they would like to be in the distant future compared to who they will be in the near future.[114]

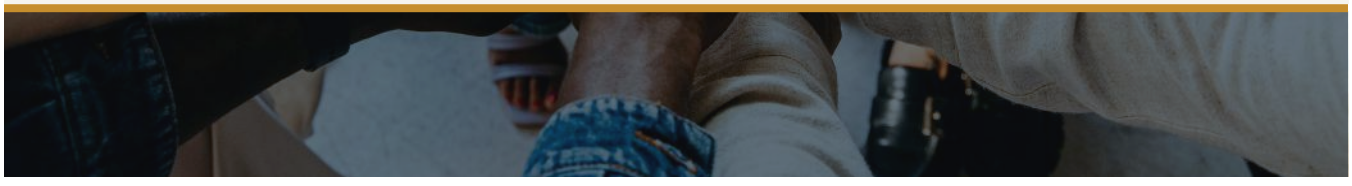
CONCLUSION

Personal agency is a critical ingredient of human flourishing. Agentic people are more likely to live healthy, prosperous, and fulfilled lives. Therefore, a goal for the science of human flourishing should be to understand the ingredients of personal agency as well as ways to help individuals fully develop and utilize their capacity for agentic living. In this report, I presented Martin Seligman's tripartite model of agency. Consistent with his model, research indicates that people are empowered to pursue their aspirations, overcome challenges, and reach success when they feel capable of accomplishing their goals (efficacy), believe that they can expect positive things (optimism), and can imagine realizing goals and achievements well into the future (imagination).

Critically, the research reviewed in this report identifies strategies to promote efficacy, optimism, and imagination that individuals and organizations can use to help cultivate personal agency and increase human flourishing. Though this is certainly not the only theoretical framework relevant to the psychology of agency, it provides vital insights for appreciating and supporting the distinct human capacity to take ownership of our own thoughts and actions and improve our own lives regardless of our circumstances.

THE SCIENCE OF HUMAN FLOURISHING

A goal for the science of human flourishing should be to understand the ingredients of personal agency as well as ways to help individuals fully develop and utilize their capacity for agentic living.



Strengthening Personal Agency

Seven evidence-based activities that foster personal agency:

KEEP A JOURNAL WITH YOUR FUTURE GOALS AND VISIONS

Include your visions for the future and what steps you will take to realize these goals. Record the progress you have made as well as reflections on what you could do differently when you face setbacks.

ESTABLISH PEER-MENTOR RELATIONSHIPS TO BUILD EFFICACY AT WORK

Encourage one another, give each other feedback on progress, and celebrate successes. Efficacy can be strengthened when you succeed and when you see others like you succeed.

TRY YOUR OWN VERSION OF "THE BEST POSSIBLE SELF" EXERCISE

Imagine yourself in a future where you have realized your most important personal, professional, and relational goals and write a narrative or create a piece of art that represents what your ideal future looks like. Revisit this regularly to remind yourself what your ideal future looks like and to encourage optimism.

WORK ON SETTING PROGRESSIVE GOALS FOR YOURSELF

Break down large goals into smaller and more manageable steps, and work towards more challenging goals to build a resilient sense of efficacy and develop a mindset of growth.

FOCUS ON THINKING ABOUT HOW THINGS COULD BE BETTER

Thinking about how things could be worse and replaying the past might feel comforting in the moment but encourages a mindset of fear and avoidance. Thinking about how things could be better helps you learn from mistakes, identify plans of action, and feel empowered to grow and improve.

SURROUND YOURSELF WITH OPTIMISTIC PEOPLE

Optimism is expecting positive things in the future. It takes time to develop the habit of positive thinking. It is easier to develop a habit of positive thinking when around others who feed your positive thinking habit rather than diminish it.

REMIND YOURSELF WHY YOUR PURSUITS ARE MEANINGFUL & GIVE YOU PURPOSE

When pursuing challenging or stressful goals it is easy to lose sight of the bigger picture. Taking a step back to remind yourself of your purpose rekindles self-determined motivation, gives you direction, and inspires efficacy and hope.

ENDNOTES

1 Tyler F. Stillman, Roy F. Baumeister, and Alfred R. Mele, "Free Will in Everyday Life: Autobiographical Accounts of Free and Unfree Actions," *Philosophical Psychology 24*, no. 3 (2011): 381–394, https://doi.org/10.1080/09515089.2011.556607.

2 Julian B. Rotter, "Generalized Expectancies for Internal Versus External Control of Reinforcement," *Psychological Monographs: General and Applied, 80*, no. 1 (1966): 1–28, https://doi.org/10.1037/h0092976; Richard M. Ryan and Edward L. Deci, "Self-Determination Theory and the Facilitation of Intrinsic Motivation, Social Development, and Well-Being," *American Psychologist, 55*, no. 1 (2000): 68–78, https://psycnet.apa.org/doi/10.1037/0003-066X.55.1.68.

3 Angela L. Duckworth, Christopher Peterson, Michael D. Mathews, Dennis R. Kelly, "Grit: Perseverance and Passion for Long-Term Goals," *Journal of Personality and Social Psychology, 92*, no. 6 (2007): 1087–1101, https://doi.org/10.1037/0022-3514.92.6.1087; Charles R. Snyder, "Hope Theory: Rainbows in the Mind," *Psychological Inquiry, 13*, no. 4 (2002): 249–275, https://doi.org/10.1207/S15327965PLI1304_01.

4 Martin Seligman, "Agency in Greco-Roman Philosophy," *Journal of Positive Psychology 16*, no. 1(2021): 1–10, https://doi.org/10.1080/17439760.2020.1832250.

5 Martin Oscarsson, Per Calbring, Gerhard Anderson, Alexander Rozenthal, "A Large-Scale Experiment on New Year's Resolutions: Approach-Oriented Goals are More Successful that Avoidance-Oriented Goals," *PLoS One 15*, no. 12 (2020): e0234097, https://doi.org/10.1371/journal.pone.0234097.

6 Albert Bandura, "Self-Efficacy: Toward a Unifying Theory of Behavioral Change," *Psychological Review 84*, no. 2 (1977): 191–215, https://doi.org/10.1037/0033-295X.84.2.191.

7 Toni Honicke and Jaclyn Broadbent, "The Influence of Academic Self-Efficacy on Academic Performance: A systematic review," *Educational Research Review 17*, (2016): 63–84. https://doi.org/10.1016/j.edurev.2015.11.002.

8 Sandra E. Moritz, Deborah L. Feltz, Kyle R. Fahrbach, and Diane E. Mack, "The Relation of Self-Efficacy Measures to Sport Performance: A Meta-Analytic Review," *Research Quarterly for Exercise and Sport 71*, no. 3 (2000): 280–294, https://doi.org/10.1080/02701367.2000.10608908.

9 Alexander D. Stajkovic and Fred Luthans, "Self-Efficacy and Work-Related Performance: A Meta-Analysis," *Psychological Bulletin 124*, no. 2 (1998): 240–261, https://doi.org/10.1037/0033-2909.124.2.240; Chu-Hsiang (Daisy) Chang, D. Lance Ferris, Russell E. Johnson, Christopher C. Rosen, and James A. Tan, "Core Self-Evaluations: A Review and Evaluation of the Literature," *Journal of Management, 38*, no. 1 (2012): 81–128, https://doi.org/10.1177/0149206311419661.

10 Carole K. Holahan and Charles Holahan, "Self-Efficacy, Social Support, and Depression in Aging: A Longitudinal Analysis," *Journal of Gerontology, 42*, no. 1 (1987): 65–68, https://doi.org/10.1093/geronj/42.1.65.

11 Pia Shönfeld, Julia Brailovskaia, Xiao Chi Zhang, and Jürgen Margraf, "Self-Efficacy as a Mechanism Linking Daily Stress to Mental Health in Students: A Three-Wave Cross-Lagged Study," *Psychological Reports, 122*, no. 6 (2019): 2047–2095, https://doi.org/10.1016/j.ijchp.2015.08.005.

12 Colin T. Mahoney, Shannon M. Lynch, and Charles C. Benight, "The Indirect Effect of Coping Self-Efficacy on the Relation Between Sexual Violence and PTSD Symptoms," *Journal of Interpersonal Violence, 20*, no. 4 (2019): 9996–10012, https://doi.org/10.1177/0886260519881525; Charles C. Benight and Michelle L. Harper, "Coping Self-Efficacy Perceptions as a Mediator Between Acute Stress Response and Long-Term Distress Following Natural Disasters," *Journal of Traumatic Stress, 15*, no. 3 (2002): 177–186, https://doi.org/10.1023/a:1015295025950; Andrew J. Smith, Erika D. Felix, Charles C. Benight, and Russell T. Jones, "Protective Factors, Coping Appraisals, and Social Barriers Predict Mental Health Following Community Violence: A Prospective Test of Social Cognitive Theory," *Journal of Traumatic Stress, 30*, no. 3 (2017): 245–253, https://doi.org/10.1002/jts.22197.

[13] Todd Jackson, Yalei Wang, Yang Wang, and Huiyong Fan. "Self-Efficacy and Chronic Pain Outcomes: A Meta-Analytic Review." *The Journal of Pain 15*, no. 8 (2014): 800–814, https://doi.org/10.1016/j.jpain.2014.05.002..

[14] Anna Banik, Ralf Schwarzer, Nina Knoll, Katarzyna Czekierda, and Aleksandra Luszczynska, "Self-Efficacy and Quality of Life Among People with Cardiovascular Disease: A Meta-Analysis," *Rehabilitation Psychology, 63*, no. 2 (2018): 295–312, https://psycnet.apa.org/doi/10.1037/rep0000199; Kathleen Krichbaum, Vivian Aarestad, and Maria Buethe, "Exploring the Connection Between Self-Efficacy and Effective Diabetes Self-Management," *The Diabetes Educator, 29*, no. 4 (2003): 653–662, https://doi.org/10.1177/014572170302900411; Mallory Johnson, Torsten B. Neilands, Samantha Dilworth, Stephen F. Morin, Robert H. Remein, and Magaret A. Chesney, "The Role of Self-Efficacy in HIV Treatment Adherence: Validation of the HIV Treatment Adherence Self-Efficacy Scale (HIV-ASES)," *Journal of Behavioral Medicine, 30*, no. 5 (2007): 359–370, https://doi.org/10.1007/s10865-007-9118-3; Anne Selzler, Razanne Habash, Lisa Robson, Erica Lenton, Roger Goldstein, and Dina Brooks. "Self-efficacy and Health-related Quality of Life in Chronic Obstructive Pulmonary Disease: A Meta-analysis." *Patient Education and Counseling, 103*, no. 4 (2020): 682–692, https://doi.org/10.1016/j.pec.2019.12.003.

[15] Albert Bandura, "Self-Efficacy Mechanism in Human Agency," *American Psychologist, 37*, no. 2 (1982): 122–147. https://doi.org/10.1037/0003-066X.37.2.122.

[16] Albert Bandura, Linda Reese, and Nancy E. Adams, "Microanalysis of Action and Fear Arousal as a Function of Differential Levels of Perceived Self-Efficacy," *Journal of Personality and Social Psychology, 43*, no. 1 (1982): 5–21, https://doi.org/10.1037/0022-3514.43.1.5.

[17] Carolyn M. Yeager and Charles C. Benight, "Engagement, Predictors and Outcome of a Trauma Recovery Digital Mental Health Intervention: A Longitudinal Study," *JMIR Mental Health, 9*, no. 5 (2002): e35048, https://doi.org/10.2196/35048.

[18] Albert Bandura, "Self-Efficacy Mechanism in Human Agency," 122–147.

[19] Norbert Schwartz and Gerald Clore, "Feelings and Phenomenal experiences." In *Social Psychology: Handbook of Basic Principles* edited by Arie W. Kruglanski and E. Tory Higgins, 385–407. New York: The Guildford Press, 2007.

[20] Sport England, *This Girl Can: Campaign Summary*, Executive Summary, 2021, https://sportengland-production-files.s3.eu-west-2.amazonaws.com/s3fs-public/2022-05/TGC%20Campaign%20summary%202021_0.pdf?VersionId=8j5WaQWXjRZy95JkiyT8s_8efCG.8llF.

[21] Jennifer A. Cheavens, David B. Feldman, Amber Gum, Scott T. Michael, and C. R. Snyder, "Hope Therapy in a Community Sample: A Pilot Investigation," *Social Indicators Research, 77*, no. 1, (2006): 61–78, https://doi.org/10.1007/s11205-005-5553-0.

[22] Lisa M. Warner, and David P. French. "Self-Efficacy Interventions." In *The Handbook of Behavior Change*, edited by Martin S. Hagger, Linda D. Cameron, Kyra Hamilton, Nelli Hankonen, and Taru Lintunen, 461–78. Cambridge Handbooks in Psychology. Cambridge: Cambridge University Press, 2020.

[23] T. Aro, H. Viholainen, T. Koponen, P. Peura, E. Raikkonen, P. Salmi, R. Sorvo, and M. Aro, "Can Reading Fluency and Self-efficacy of Reading Fluency Be Enhanced with an Intervention Targeting the Sources of Self-efficacy?" *Learning and Individual Differences, 67* (2018): 53–66, https://doi.org/10.1016/j.lindif.2018.06.009.

[24] Lisa M. Warner, and David P. French. "Self-Efficacy Interventions," 461–78.

[25] Andrew A. Abeyta, Clay Routledge, and Jacob Juhl, "Looking Back to Move Forward: Nostalgia as a Psychological Resource for Promoting Relationship Goals and Overcoming Relationship Challenges,", *Journal of Personality and Social Psychology, 109*, no. 6 (2015): 1029–1044, https://doi.org/10.1037/pspi0000036.

[26] Christopher N. Cascio, Matthew Brook O'Donnell, Francis J. Tinney, Matthew D. Lieberman, Shelley E. Taylor, Victor J. Strecher, Emily B. Falk, "Self-affirmation Activates Brain Systems Associated with Self-Related Processing and Reward and Is Reinforced by Future Orientation," *Social Cognitive and Affective Neuroscience, 11*, no. 4 (2016): 621–629, https://doi.org/10.1093/scan/nsv136.

[27] Charles S. Carver and Michael F. Scheier, "Optimism, Pessimism, and Self-regulation." In *Optimism and Pessimism: Implications for Theory, Research, and Practice*, edited by Edward C. Chang, 31–51, Washington, DC: American Psychological Association, 2001.

[28] Dario Monzani, Patrizia Steca, Andrea Greco, Marco D'Addario, Luca Pancani, and Erika Cappelletti, "Effective Pursuit of Personal Goals on Goal Commitment and Goal Progress," *Personality and Individual Differences, 82* (2015): 203–214, http://dx.doi.org/10.1016/j.paid.2015.03.019.

[29] Michael F. Scheier, Charles S. Carver, and Michael Bridges, "Distinguishing Optimism from Neuroticism (and Trait Anxiety, Self-Mastery, and Self-Esteem): A Reevaluation of the Life Orientation Test," *Journal of Personality and Social Psychology, 67*, no. 6 (1994): 1063–1078, https://psycnet.apa.org/doi/10.1037/0022-3514.67.6.1063.

[30] Dario Monzani, Patrizia Steca, Andrea Greco, Marco D'Addario, Luca Pancani, and Erika Cappelletti, "Effective Pursuit of Personal Goals on Goal Commitment and Goal Progress," 203–214,

[31] Carver and Scheier, "Optimism, Pessimism, and Self-regulation." 31–51.

[32] Lise Solberg Nes, Daniel R. Evans, and Suzanne Segerstrom, "Optimism and College Retentions: Mediation by Motivation, Performance and Adjustment," *Journal of Applied Social Psychology, 39*, no. 8 (2009): 1887–1912, https://doi.org/10.1111/j.1559-1816.2009.00508.x.

[33] Suzanne C. Segerstrom, "Optimism, Goal Conflict, and Stressor-Related Immune Change," *Journal of Behavioral Medicine, 24*, no. 4 (2001): 441–467, https://doi.org/10.1023/A:1012271410485.

[34] Suzanne C. Segerstrom, "Optimism and Resources: Effects on Each Other and on Health Over 10 Years," *Journal of Research in Personality, 42*, no. 4 (2007): 772–786, https://doi.org/10.1016/j.jrp.2006.09.004.

[35] Michael Greenberg, "High-Rise Public Housing, Optimism, and Personal and Environmental Health Behaviors," *American Journal of Health Behaviors, 21*, no. 5 (1997): 388–398.

[36] Lisa G. Aspinwall and Shelley E. Taylor, "Modeling Cognitive Adaptation: A Longitudinal Investigation of the Impact of individual Differences and Coping on College Performance," *Journal of Personality and Social Psychology, 63*, no. 6 (1992): 898–1003, https://psycnet.apa.org/doi/10.1037/0022-3514.63.6.989.

[37] Lisa Solberg Nes and Suzanne C. Segerstrom, "Dispositional Optimism and Coping: A Meta-Analytic Review," *Personality and Social Psychology Review, 10*, no. 3 (2006): 235–251, https://doi.org/10.1207/s15327957pspr1003_3.

[38] Charles S. Carver and Michael F. Sheier, "Dispositional Optimism," *Trends in Cognitive Science, 18*, no. 6 (2014): 293–299, https://doi.org/10.1016/j.tics.2014.02.003; Carsten Wrosch, Michael F. Scheier, and Gregory E. Miller, "Goal Adjustment Capacities, Subjective Well-being and Physical Health," *Social and Personalilty Psychology Compass, 7*, no. 12 (2013): 847–860, https://doi.org/10.1111/spc3.12074.

[39] Lisa G. Aspinwall and Linda Richter, "Optimism and Self-Mastery Predict More Rapid Disengagement from Unsolvable Tasks in the Presence of Alternatives," *Motivation and Emotion, 23*, no. 3 (1999): 221–245, https://doi.org/10.1023/A:1021367331817.

[40] Andrew L. Greers, Justin A. Wellman, and G. Daniel Lassiter, "Dispositional Optimism and Engagement: The Moderating Influence of Goal Prioritization: The Moderating Influence of Goal Prioritization," Journal of Personality and Social, 96, no. 4 (2009): 913–932, https://psycnet.apa.org/doi/10.1037/a0014830.

[41] Lisa G. Aspinwall, Susanne M. Burnhart, "Distinguishing Optimism from Denial: Optimistic Beliefs Predict Attention to Health Threats," Personality and *Social Psychology Bulletin, 22*, no 10 (1996): 993–1003, https://doi.org/10.1177/01461672962210002.

[42] Lisa G. Aspinwall, Gretchen B. Seechrist, and Paul R. Jones, "Expect the Best and Prepare for the Worst: Anticipatory Coping in Preparations for Y2K," *Motivation and Emotion, 29*, no. 4 (2005): 353–384, https://doi.org/10.1007/s11031-006-9008-y; Ashlie R. Britton, Michael T. Sliter, Steve M. Jex, "Is the Glass Really Half-Full? The Reverse-Buffering Effect of Optimism on Undermining Behavior," *Personality and Individual Differences, 52*, no. 6 (2012): 712–717, https://doi.org/10.1016/j.paid.2011.12.038.

[43] Charles S. Carver, Michael F. Scheier, and Jagdish Kumari Weintraub, "Assessing Coping Strategies: A Theoretically Based Approach," *Journal of Personality and Social Psychology, 56*, no. 2 (1989): 267–283, https://doi.org/10.1037//0022-3514.56.2.267.

[44] Charles S. Carver, Christina Pozo, Suzanne D. Harris, Victoria Noriega, Michael F. Scheier, David S. Robinson, Alfred S. Ketcham, Frederick L. Moffat, and Kimberley C. Clark, "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*, no. 2 (1993): 375–390, http://dx.doi.org/10.1037/0022-3514.65.2.375; Shelley E. Taylor, Margaret E. Kemeny, Lisa G. Aspinwall, Stephen G. Schneider, Richard Rodriguez, and Mark Herbert, "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*, no. 3 (1992): 460–473, https://psycnet.apa.org/doi/10.1037/0022-3514.63.3.460; Melissa A. Wright, Anava A. Wren, Tamara J. Somers, Mark C. Goetz, Anne Marie Fras, Billy K. Huh, Lesco L. Rogers, and Francis J. Keefe, "Pain Acceptance, Hope, and Optimism: Relationships to Pain and Adjustment with Pain in Patients with Chronic Mussuloskeletal Pain," *The Journal of Pain, 12*, no. 11, 1155–1162, https://doi.org/10.1016/j.jpain.2011.06.002.

[45] Mariam A. Mosing, Bendan P. Zietsch, Sri N. Shekar, Margaret J. Wright, and Nicholas G. Martin, "Genetic and Environmental Influences on Optimism and Its Relationship to Mental and Self-Rated Health: A Study of Aging Twins." *Behavior Genetics, 39* (2009): 597–604. https://doi.org/10.1007/s10519-009-9287-7; Robert Plomin, Michael F. Scheier, C. S. Bergeman, N. L. Pederson, J.R. Nesselroade, and G. E. McClearn, "Optimism, pessimism and Mental Health: A Twin/Adoption Analysis," *Personality and Individual Differences, 13*, no. 8 (1992): 921–930, https://doi.org/10.1016/0191-8869(92)90009-E.

[46] Kati Heinonen, Katri Raikkonen, Karen A. Matthews, Michael F. Scheier, Olli T. Raitakari, Laura Pulkki, Liisa Keltikangas-Jarvinen, "Socioeconomic Status in Childhood and Adulthood: Associations with Dispositional Optimism and Pessimism Over a 21-Year Follow-up," *Journal of Personality, 74*, no. 4 (2006): 1111–1126, https://doi.org/10.1111/j.1467-6494.2006.00404.x.

[47] Suzanne C. Segerstrom, "Optimism and Resources: Effects on Each Other and on Health Over 10 Years," 772–786, https://doi.org/10.1016/j.jrp.2006.09.004.

[48] Martin E. P. Seligman, *Learned Optimism: How to Change Your Mind and Your Life* (New York, NY: Vintage Books, 2006).

[49] Yvo M. C. Meevissen, Madelon L. Peters, and Hugo J. E. M. Alberts, "Becomes More Optimistic by Imagining a Best Possible Self: Effects of a Two Week Intervention," *Journal of Behavior Therapy and Experimental Psychiatry, 42*, no. 3 (2011): 371–378, https://doi.org/10.1016/j.jbtep.2011.02.012.

[50] Seligman, *Learned Optimism*.

[51] Seligman, "Agency in Greco-Roman Philosophy," 1–10.

[52] Randy L. Buckner and Daniel C. Carroll, "Self-projection and the Brain," *Trends in Cognitive Science, 11*, no. 2 (2006): 49–57, https://doi.org/10.1016/j.tics.2006.11.004.

Ruth M. J. Byrne, "Counterfactual Thought" *Annual Review of Psychology, 67* (2016): 135–157, https://doi.org/10.1146/annurev-psych-122414-033249; Martin E. P. Seligman, Peter Railton, Roy F. Baumeister, and Chandra Sripada, "Navigating into the Future or Driven by the Past," Perspective on Psychological Science, 8, no. 2 (2013): 119–141, https://doi.org/10.1177/1745691612474317.

[53] Leaf Van Boven and Laurence Ashworth, "Looking Forward, Looking Back: Anticipation Is More Evocative than Retrospection," *Journal of Experimental Psychology: General, 136*, no. 2 (2007): 289–300, https://doi.org/10.1037/0096-3445.136.2.289; Timothy D. Wilson and Daniel T. Gilbert, "Affective Forecasting: Knowing what to Want," *Current Directions in Psychological Science, 14*, no. 3 (2005): 131–134, https://doi.org/10.1111/j.0963-7214.2005.00355.x.

[54] Andrew J. Elliot, Andreas B. Elder, and Eddie Harmon-Jones, "Approach-Avoidance Motivation and Emotion: Convergence and Divergence," *Emotion Review, 5*, no. 2 (2013): 308–311, https://doi.org/10.1177/1754073913477517.

[55] Allesandro Gabbiadini, Frederica Durante, Cristina Baldissarri, and Luca Andrighetto, "Artificial Intelligence in the Eyes of Society: Assessing Social Risk and Value Perception in Novel Classification," *Human Behavior and Emerging Technologies* 2024, no. 1 (2024): 7008056, https://doi.org/10.1155/2024/7008056.

[56] Jianning Dang and Li Liu, "A Growth Mindset About Human Minds Promotes Positive Responses to Intelligent Technology," *Cognition, 220*, (2022): 104985, https://doi.org/10.1016/j.cognition.2021.104985.

[57] Gabriele Oettingen and Klaus Michael Reininger, "The Power of Prospection: Mental Contrasting and Behavior Change," *Social and Personality Psychology Compass, 10*, no. 11 (2016): 591–604, https://doi.org/10.1111/spc3.12271.

[58] Ryan and Deci, "Self-Determination Theory and the Facilitation of Intrinsic Motivation, Social Development, and Well-Being," 68–78.

[59] Leonard Greem and Joel Myerson, "A Discounting Framework for Choice with Delayed and Probabilistic Rewards, *130*, no. 5 (2004): 769–792, https://psycnet.apa.org/doi/10.1037/0033-2909.130.5.769.

[60] Jan Peters and Christian Buchel, "Episodic Future Thinking Reduces Reward Delay through an Enhancment of Prefrontal-Mediotemporal Interactions," *Neuron, 66*, no. 1 (2010): 138–148, https://doi.org/10.1016/j.neuron.2010.03.026.

[61] Jacob Juhl, Clay Routledge, Joshua A. Hicks, and Constantine Sedikides, "Can Affectively Negative Experiences Contribute to Well-Being? The Affectively Negative Need-Fulfillment Model," In *The Happy Mind: Cognitive Contributions to Well-Being*, edited by Michael D. Robinson and Michael Eid, 389–407, New York: Springer, 2017.

[62] Oettingen and Reininger, "The Power of Prospection," 591–604.

[63] Gabriele Oettingen, "Expectancy Effects on Behavior Depend on Self-Regulatory Thought," *Social Cognition, 18*, no. 2 (2000): 101–129, https://doi.org/10.1521/soco.2000.18.2.101.

[64] Oettingen and Reininger, "The Power of Prospection," 591–604.

[65] Nira Liberman and Yaacov Trope, "Traversing Psychological Distance," *Trends in Cognitive Science, 18,* no. 7 (2014): 364–369, https://doi.org/10.1016/j.tics.2014.03.001; Miki Toyama, "Beyond the Hear and Now: Leveraging Distal Mental Simulation for Creative Breakthroughs," *Psychology of Aesthetics, Creativity, and the Arts*, Advanced online publication (2025): https://dx.doi.org/10.1037/aca0000728.

[66] Barbara L. Fredrickson, "The Role of Positive Emotions in Positive Psychology: The Broaden-and-Build Theory of Positive Emotions," *American Psychologists, 56*, no. 3 (2001): 218–226, https://psycnet.apa.org/doi/10.1037/0003-066X.56.3.218.

[67] Andrew Abeyta, *The Science of Hope* (Washington DC: Archbridge Institute Human Flourishing Lab, 2023): https://humanflourishinglab.org/wp-content/uploads/2023/10/HFL-The-Science-of-Hope.pdf.

[68] Haiyan Wu, Xun Liu, Cindy C. Hagan, and Dean Mobbs, "Mentalizing During Social Interaction: A Four Component Model," *Cortex, 126* (2020): 242–252, https://doi.org/10/1016/j.cortex.2019.12.031.

[69] Helen Tager-Flusberg, "Evaluating the Theory-of-Mind Hypothesis of Autism," *Current Directions in Psychological Sciences, 16*, no. 6, 311–315, https://doi.org/10.1111/j.1467-8721.2007.00527.x.

[70] Alice A. Eagly, "Comprehensibility of Persuasive Arguments as Determinant of Opinion Change," *Journal of Personality and Social Psychology, 29*, no. 6 (1974): 758–776, https://psycnet.apa.org/doi/10.1037/h0036202.

[71] Virginia Slaughter, Candida Peterson, and Chris Moore, "I Can Talk You into It: Theory of Mind and Persuasion Behavior in Young Children," *Developmental Psychology, 49*. No. 2 (2013): 227–231, https://psycnet.apa.org/doi/10.1037/a0028280.

[72] Elaine M. Wong, Michael P. Haselhuhn, and Laura J. Kray, "Improving the Future by Considering the Past: The Impact of Upward Counterfactual Reflection and Implicit Beliefs on Negotiation Performance," *Journal of Experimental Social Psychology, 48*, no. 1 (2012): 403–406, https://doi.org/10.1016/j.jesp.2011.07.014.

[73] Glenn J. Browne, Radha Appan, Roozmehr Safi, and Vidhya Mellakrod, "Investigating Illusions of Agreement in Group Requirements Determination," *Information Management, 55*, no. 8 (2018): 1071–1083, https://doi.org/10.1016/j.im.2018.05.013; Irving L. Janis, *Groupthink: Psychological Studies of Policy Decisions and Fiascos* (Boston, MA: Houghton Mifflin, 1982).

[74] Pars Anders Granhag and Maria Hatwig, "A New Theoretical Perspective on Deception Detection: On the Psychology of Instrumental Mind-Reading," *Psychology, Crime & Law, 14*, no. 3 (2008): 189–200, https://doi.org/10.1080/10683160701645181.

[75] David M. Williams, Toby Nicholson, Catherine Grainger, Sophia E. Lind, and Pater Carruthers, "Can You Spot a Liar? Deception, Mindreading, and the Case of Autism Spectrum Disorder," *Autism Research, 11*, no. 8 (2018): 1129–1137, https://doi.org/10.1002/aur.1962.

[76] Albert Bandura, *Social Learning Theory* (Englewood Cliffs, NJ: Prentice Hall, 1977).

[77] Michael Tomasello, Malinda Carpenter, Joseph Call, Tanya Behne, and Henricke Moll, "Understanding and Sharing Intentions: The Origins of Cultural Cognition," *Behavior and Brain Sciences, 28*, no. 5 (2005): 675–691, https://doi.org/10.1017/S01450525X05000129.

[78] Ruth M. J. Byrne, "Counterfactual Thought," *Annual Review of Psychology, 67* (2016): 135–157, https://doi.org/10.1146/annurev-psych-122414-033249.

[79] Neal J. Roese and Kai Epstude, "Chapter One - The Functional Theory of Counter Factual Thinking: New Evidence, New Challenges, New Insights," *Advances in Experimental Social Psychology, 56*, (2017): 1–79, https://doi.org/10.1016/bs.aesp.2017.02.001.

[80] Andrew J. Elliot, "The Hierarchical Model of Approach-Avoidance Motivation," *Motivation and Emotion, 30* (2006): 111–116, https://doi.org/10.1007/s11031-006-9028-7.

[81] Ellen Crowe and E. Tory Higgins, "Regulatory Focus and Strategic Inclinations: Promotion and Prevention in Decision-Making," *Organizational Behavior and Decision Making, 69*, no. 2 (1997): 117–132, https://doi.org/10.1006/obhd.1996.2675.

[82] Rachel Smallman and Neal J. Roese, "Counterfactual Thinking Facilitates Behavioral Intentions," *Journal of Experimental Social Psychology, 45* (2009): 845–852, https://doi.org/10.1016/j.jesp.2009.03.002.

[83] Adam D. Galinsky and Laura J. Kray, "From Thinking About What Might Have Been to Sharing What We Know: The Effects of Counterfactual Mind-sets on Information Sharing in Groups," *Journal of Experimental Social Psychology, 40*, no. 5 (2004): 606–618, https://doi.org/10.1016/j.jesp.2003.11.005.

[84] Michael McCarrey, Henry P. Edwards, and Wilson Rozario, "Ego-Relevant Feedback, Affect, and Self-Serving Attributional Bias," *Personality and Social Psychology Bulletin, 8*, no. 2 (1982): 189–194, https://doi.org/10.1177/0146167282082001.

[85] Keith D. Markman and Philip E. Tetlock, "'I Couldn't Have Known': Accountability, Foreseeability and Counterfactual Denials of Responsibility," *British Journal of Social Psychology, 39* (2000): 313–325, https://doi.org/10.1348/014466600164499.

[86] Ruth M. J. Byrne, "Counterfactual Thought," 135–157,

[87] Brian Lickel, Kostadin Kushlev, Victoria Savalei, Shashi Matta, and Toni Scmader, "Shame and the Motivation to Change the Self," *Emotion, 14*, no. 6 (2014): 1049–1061, https://psycnet.apa.org/doi/10.1037/a0038235.

[88] Ruth M. J. Byrne, "Counterfactual Thought," 135–157,

[89] Neal J. Roese and Kai Epstude, "Chapter One - The Functional Theory of Counter Factual Thinking: New Evidence, New Challenges, New Insights," *Advances in Experimental Social Psychology, 56*, (2017): 1–79, https://doi.org/10.1016/bs.aesp.2017.02.001.

[90] Thomas Gilovich, "Biased Evaluation and Persistence in Gambling," *Journal or Personality and Social Psychology, 44*, no. 6 (1983): 1110–1126, https://doi.org/10.1037/0022-3514.44.6.1110.

[91] Kai Epstude and Neal J. Roese, "The Functional Theory of Counterfactual Thinking," *Personality and Social Psychology Review, 12*, no. 2 (2008): 168–192, https://doi.org/10.1177/1088868308316091.

[92] Neal J. Roese, "The Functional Basis of Counterfactual Thinking," *The Journal of Personality and Social Psychology, 66*, no. 5 (1994): 805–818, https://doi.org/10.1037/0022-3514.66.5.805.

[93] Keith D. Markman, Matthew N. McMullen, and Ronald A. Elizaga, "Counterfactual Thinking, Persistence, and Performance: A Test of the Reflection and Evaluation Model," *Journal of Experimental Social Psychology, 44*, no. 2 (2008): 421–428, https://doi.org/10.1016/j.jesp.2007.01.001.

Laine K. Reichert and John R. Slate, "Reflective Learning: The Use of "IF Only…" Statements to Improve Performance," *Social Psychology of Education, 3* (1999): 261–275, https://doi.org/10.1023/A:1009643025983

Neal J. Roese, "The Functional Basis of Counterfactual Thinking," *Journal of Personality and Social Psychology, 66*, no. 5 (1994): 805–818, https://psycnet.apa.org/doi/10.1037/0022-3514.66.5.805.

[94] Michael W. Morris and Paul C. Moore, "The Lessons We (Don't) Learn: Counterfactual Thinking and Organizational Accountability after a Close Call," *Administrative Science Quarterly, 45,* no. 4 (2000): 737–765, https://doi.org/10.2307/2667018.

[95] Sarah R. Beck, Elizabeth J. Robinson, Daniel J. Carroll, and Ian A. Apperly, "Children's Thinking about Counterfactuals and Future Hypotheticals as Possibilities," *Child Development, 77*, no. 2 (2006): 413–426, https://doi.org/10.1111/j.1467-8624.2006.00879.x; Eimear O'Connor, Teresa McCormack, and Aidan Feeney, "Do Children Who Experience Regret Make Better Decisions? A Developmental Study of the Behavioral Consequences of Regret," *Child Development, 85*, no. 5 (2014): 1995–2020, https://doi.org/10.1111/cdev.12253.

[96] Buckner and Carroll, "Self-projection and the Brain," 49–57.

[97] Clay Routledge, Past Forward: *How Nostalgia Can Help You Live a More Meaningful Life* (Louisville, CO: Sounds True Publishing, 2023).

[98] Constantine Sedikides, Wing-Yee Cheung, Tim Wildschut, Erica G. Hepper, Einar Baldursson, and Bendt Pederson, "Nostalgia Motivates Pursuit of Important Goals by Increasing Meaning in Life," *European Journal of Social Psychology, 42*, no. 2 (2018): 209–216, https://doi.org/10.1002/ejsp.2318; Elena Stephan, Constantine Sedikides, Tim Wildschut, Wing-Yee Cheung, Clay Routledge, and Jamie Arndt, "Nostalgia Evoked Inspiration: Mediating Mechanisms and Motivational Implications," *Personality and Social Psychology Bulletin, 41*, no. 10 (2015): 1395–1410, https://doi.org/10.1177/0146167215596985.

[99] Andrew A. Abeyta, Clay Routledge, and Jacob Juhl, "Looking Back to Move Forward: Nostalgia as a Resource for Promoting Relaitonship Goals and Overcoming Relationship Challenges," *Journal of Personality and Social Psychology, 109*, no. 6 (2015): 1029–1044, https://psycnet.apa.org/doi/10.1037/pspi0000036; Jianning Dang, Constantine Sedikides, Tim Wildschut, and Li Liu, "Nostalgia Encourages Exploration and Fosters Uncertainty in Response to AI Technology," *British Journal of Social Psychology, 54*, no. 1 (2025): https://doi.org/10.1111/bjso.12843; Mike Kersten, Cathy R. Cox, and Erin A. van Enkevort, "An Exercise in Nostalgia: Nostalgia Promotes Health Optimism and Physical Activity," *Psychology and Health, 31*, no. 10 (2016): 1166–1181, https://doi.org/10.1080/08870446.2016.1185524; Wijnand A. P. van Tilburg, Constantine Sedikides, and Tim Wildschut, "The Mnemonic Muse: Nostalgia Fosters Creativity Through Openness to Experience," *Journal of Experimental Social Psychology, 59* (2015): 1–7, https://doi.org/10.1016/j.jesp.2015.02.002.

[100] Routledge, Past Forward: *How Nostalgia Can Help You Live a More Meaningful Life*.

[101] Andrew K. MacLeod and Eva Salaminiou, "Reduced Positive Future-Thinking in Depression: Cognitive and Affective Factors," *Cognition and Emotion, 15*, no. 1 (2001): 99–107, https://doi.org/10.1080/02699930125776; Andrew K. MacLeod, Philip Tata, John Kentish, and Hanne Jacobsen, "Retrospective and Prospective Cognitions in Anxiety and Depression," *Cognition and Emotion, 11*, no. 4 (1997): 467–479, https://doi.org/10.1080/026999397379881; Joachim Stober, "Prospective Cognitions in Anxiety and Depression: Replication and Methodological Extension," *Cognition and Emotion, 14*, no. 5 (2000): 725–729, https://doi.org/10.1080/026999300501176 93.

[102] Jennice S. Vilhauer, Sabrina Young, Chanel Kealoha, Josefine Borrman, Waguih W. IsHak, Mark H. Rapaport, Narineh Hartoonian, and Jim Mirocha, "Treating Major Depression by Creating Positive Expectations for the Future: A Pilot Study for the Effectiveness of Future-Directed Therapy (FDT) on Symptom Severity and Quality of Life," *CNS Neuroscience & Therapeutics, 18* (2012): 102–209, https://doi.org/10.1111/j.1755-5949.2011.00235.x.

[103] Abeyta, *The Science of Hope*, https://humanflourishinglab.org/wp-content/uploads/2023/10/HFL-The-Science-of-Hope.pdf; Cheavens, Feldman, Gum, Michael, and Snyder, "Hope Therapy in a Community Sample, 61–78.

[104] Dominique Louis Debats, "Meaning in Life: Clinical Relevance and Predictive Power." *British Journal of Clinical Psychology 35*, no. 4 (1996): 503–516, https://doi.org/10.1111/j.2044-8260.1996.tb01207.x.

[105] Stephanie A. Hooker and Kevin S. Masters, "Purpose in Life is Associated with Physical Activity Measured by Accelerometer," *Journal of Health Psychology, 21*, no 6 (2016): 962–971, https://doi.org/10.1177/1359105314542822; Jefferson A. Singer, Bruce F. Singer, and Meredith Berry, "A Meaning-Based Intervention to Treat Alcohol Abuse," In *The Experience of Meaning in Life: Classic Perspectives, Emerging Themes, and Controversies*, edited by Joshua A. Hicks and Clay Routledge, 379–392, New York: Springer, 2013; Yeager, Henderson, D'Mello, Paunesku, Walton, Spitzer, and Duckworth, "Boring but Important," 559–580.

[106] Seligman, "Agency in Greco-Roman Philosophy," 1–10.

[107] Scheier, Carver, and Bridges, "A Reevaluation of the Life Orientation Test," 1063–1078.

[108] Albert Bandura, "Guide for Constructing Self-Efficacy Scales," In *Self-Efficacy Beliefs of Adolescents* eds. Frank Pajares and Tim Urdan (Greenwich, CT: Information Age Publishing, 2006), 307–337.

[109] Kevin L. Rand, "Hope, Self-Efficacy, and Optimism: Conceptual and Empirical Differences," In *The Oxford Handbook of Hope*, eds. Matthew W. Gallagher and Shane J. Lopez (New York, NY: Oxford University Press, 2018), 45–58.

[110] Meevissen, Peters, and Alberts, "Becomes More Optimistic by Imagining a Best Possible Self," 371–378.

[111] Thomas Gilovich, Margaret Kerr, and Victoria H. Medvec, "Effect of Temporal Perspectives on Subjective Confidence. *Journal of Personality and Social Psychology, 64*, no. 4 (1993): 552–560, https://psycnet.apa.org/doi/10.1037/0022-3514.64.4.552; Karl K. Szpunar and Daniel L. Schacter, "Get Real: Effects of Repeated Simulation on the Perceived Plausibility of Future Experiences," *Journal of Experimental Psychology: General, 142*, no. 2 (2013): 323–327, https://doi.org/10.1037/a0028877.

[112] Diane McDermott and C. R. Snyder, *Making Hope Happen: A Workbook for Turning Possibilities into Reality* (Oakland, CA: New Harbinger Publications, 1999).

[113] Elena Stephan and Constantine Sedikides, "Mental Time Travel as Self-Affirmation," P*ersonality and Social Psychology Review, 28*, no. 2 (2024): 181–208, https://doi.org/10.1177/10888683231203143.

[114] Daniel Heller, Elena Stephan, Yona Kifer, and Constantine Sedikides, "What Will I Be? The Role of Temporal Perspective in Predictions of Affect, Traits, and Self-Narratives," *Journal of Experimental Social Psychology, 47*, no. 3 (2011): 610–615, https://doi.org/10.1016/j.jesp.2011.01.010; Elena Stephan, Constantine Sedikides, Daniel Heller, and Daniella Shidlovski, "My Fair Future Self: The role of Temporal Distance and Self-Enhancement in Prediction," *Social Cognition, 33*, no. 2 (2015): 149–168, https://psycnet.apa.org/doi/10.1521/soco.2015.33.2.149.

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