

Leadership After COVID-19 [Spoiler: There is Something Beyond Recovery and Resilience for
Individuals and Organizations]

Thomas Payne

University of Pennsylvania

A Capstone Project Submitted

In Partial Fulfillment of the Requirements for the Degree of

Master of Applied Positive Psychology

Advisor: Michelle McQuaid

August 1, 2020

Leadership After COVID-19 [Spoiler: There is Something Beyond Recovery and Resilience for
Individuals and Organizations]

Thomas Payne

thpayne@sas.upenn.edu

Capstone Project

Master of Applied Positive Psychology

University of Pennsylvania

Advisor: Michelle McQuaid

August 1, 2020

Abstract

Throughout history, humans have found ways to recycle energy in ways that benefit them and would otherwise be wasted. Examples of this processing include learning to use fire for warmth, light, and cooking or identifying how to redirect the wind to navigate a ship in a preferred direction as opposed to a undetermined random route. Today, leaders can learn how to harvest uncertainty and randomness into tasks that utilize their strengths, as well as those on the team, to fuel optimal business outcomes and well-being for their employees. The author provides two workshop outlines. The first will help leaders correct cognitive distortions and view an uncertain world more objectively. The second workshop will use a validated framework to reframe uncertainty inherent in work tasks as opportunities to utilize strengths that to energize individuals and maximize resources within any organization.

Keywords: leadership, resilience, teams, strengths, COVID-19, antifragile, thinking traps, hope, mental contrasting, risk

Acknowledgements

If you cannot judge a book by its cover, perhaps you can judge one by its acknowledgements. To me, one joy of walking into a bookstore is knowing that each book includes a short reflection about what was necessary for an author to arrive at publishing. James Pawelski, if you're reading this, I think the humanities and human flourishing project could benefit from a study on author acknowledgements. More than once, I've turned to some of my favorite books, and the recognition of others found on the back cover, as a positive intervention for my own well-being. Thinking about acknowledgements now, having written this paper, it seems that this practice of appreciation represents most of what I hope to convey: the need for a higher consciousness, to notice how much we need other people to help us get through any obstacles worth traversing, and the benefits of constructing that experience together. Acknowledgements are often full of emotion, wisdom, and hope. All of these I write about in the pages that follow. (What a humorous and serendipitous insight looking back.)

To the smallest of actions that led me to this very moment: Ben Rapaport, you listened with interest and appreciation to my nascent ideas and then respectfully declined to advise my Capstone. This is value through subtraction, via negative. Thank you for knowing enough about yourself to leaving space for others to contribute and not jump into something that wasn't a good fit (for more on the inverse of this, I discuss naïve interventionism). I look forward to catching up over a lovely cabernet soon. To Glen Rupert, the first time I saw someone facilitate a session to lift team performance it was under your watch. I was impressed and inspired. The job I took at Cisco was a direct result of that experience. Not long after that, on a cold December morning at a nondescript coffee shop, you inspired me to follow my intuition instead of endlessly chasing thoughts around my head. On several occasions, your observations over cappuccinos gave me

the confidence to rely on my own strengths as sufficient to navigate the uncertainty of this project with hopefulness. I decided to pursue the Masters of Applied Positive Psychology (MAPP) at Penn after our first conversation that morning.

The professors at the MAPP program are beyond what I had hoped—and I am a big dreamer. If I had another six months to finish this paper, I could write about many transcendent moments in unassuming and stale business school classrooms in Huntsman Hall. A few professors who brought especially insightful moments to bear, and tears to my eyes, include: James Pawelski, Martin E.P. Seligman, Michael Baime, and Chris Feudtner.

Leaders in my life abound. Particularly women. In my eight years at Cisco I've reported exclusively to women who have led with humility, kindness, conviction, and strength. Early on, Roxanne Bisby Davis helped me appreciate the hard work of designing, collecting, and analyzing good data. You saw in me unrefined strengths and then, as the best leaders do, aligned meaningful and challenging work that gave me opportunities to hone them and grow as an employee and a person. Megan Hundley, your perspective and poise is beyond compare. Should the fate of the free world rest on the successful facilitation of a conversation between our current political leaders, you would be our finest hope. You see all that is good about me and bring it to bear with your questions. Thank you for your patience and generosity in this experience. I speak of the environment you help create on our team often to my friends and family.

To my brother, John Charles. Were two brothers every more unlike? As we've grown into our strengths, and heightened appreciation of those differences, we've grown closer. When I finished my undergraduate degree you gifted me *Flow* by Mihaly Csikszentmihalyi, a book which changed the trajectory and vocation of my life.

To my mother, Vo. Everything I've written about all these lovely people is inconceivable without you. My ability to think big, live well, and love deeply is a result of your endless care and (sometimes undeserving) attention. Though I will not escape your motherly watch for some time, know that it is, and has always been, what I hope my own children will experience someday.

Table of Contents

<i>Acknowledgements</i>	3
<i>The View from Here</i>	7
Leading in the Real World and COVID-19 Era.....	9
History of Antifragility	12
What is Antifragility?	13
Summarizing Antifragility	22
History of Positive Psychology.....	23
<i>Workshop #1: Removing Thinking Traps & Building Collective Hope</i>	30
Cognitive Distortions	31
Shortcuts and Thinking Traps.....	33
What Benefit is there for Leaders & Teams?.....	34
<i>Workshop #2: Leading with Strengths to Leverage Uncertainty</i>	37
Positive Emotions, Perspective, and Work	38
Strengths: Nonlinear Levers for Collective Excellence at Work.....	41
Positive vs Negative Coaching	44
Uncovering and Coalescing Collective Ability, Building Energy and Momentum	46
A Framework for Uncertainty at Work.....	47
Prospection.....	48
Mental Contrasting and Implementation Intentions	49
Hope: Pathways and Positive Upside	52
Limitations	56
What Value is there for Leaders and Teams?	58
<i>Conclusion: An Expansive and Hopeful View From Here</i>	62
<i>Appendix A</i>	64
<i>Appendix B: Character Strengths from VIA</i>	65
<i>References</i>	66

The View from Here

Throughout history, humans have found ways to recycle energy in ways that benefit them and would otherwise be wasted or harmful. Examples of this processing include learning to use fire for warmth, light, and cooking, or identifying how to redirect the wind to navigate a ship in a preferred direction as opposed to an undetermined random route. This paper will discuss how leaders can harvest uncertainty and randomness (as we have done with wind and fire) into tasks that utilize their strengths, as well as strengths on the team, to fuel optimal business outcomes and well-being for their employees.

The skill of reframing and leveraging randomness and uncertainty is especially necessary in today's world. The spread of the COVID-19 virus shifted how individuals and teams work almost overnight. In less than 60 days, almost every business experienced a significant shift in how they operate. Unessential brick and mortar stores (e.g., malls, clothing stores) were forced to close and/or learn how to operate virtually. Grocery stores immediately instituted maximum occupancy rules, and strict hygiene protocols (e.g., right to refuse entry without a facemask). Inefficiencies in major supply chains were exposed (e.g., meat, toilet paper). In short, for most people around the world, the impact of the coronavirus (COVID-19) is a clear inflection point: life and plans before COVID-19 and after COVID-19. To date, the virus has impacted human life at an unprecedented scale by limiting or making impossible the needs of shelter/safety, food, financial security, education, relationships, and physical touch. Even today, 10 weeks into the COVID-era, individual circumstances on these basic needs are fluctuating dramatically. People who remain employed are looking to leaders for hope more than ever. What options do leaders have?

In the aftermath directly after COVID-19, healing oriented action and care are urgent and necessary. But it is not the only thing worth pursuing at this moment. The goal of this paper is to provide a balanced, or comprehensive, analysis of how leaders can move forward from this experience with knowledge about how to leverage uncertainty in positive ways. There is a broader mindset than simply getting through this pandemic with teams, business, and families intact. Burning resources to slowly navigate back to equilibrium, or reorganizing to accept a “new normal” without investigating a mindset or method of future prevention is unwise. A new mentality is necessary to leverage uncertainty, not just deal with it. How to lead a team after COVID-19 requires a focus on topics beyond the urgency of the moment. Namely, a focus on the system in place and what mindsets, behaviors, and actions will be useful to live well and fully in a future that appears very different than we might have predicted last October. This paper will present two workshops to help leaders understand more objectively the reality of the moment, and how to move into an unknown future with confidence and capacity no matter what comes.

The first workshop will teach leaders how to identify limiting beliefs, thoughts, and stories that lead to actions which make individuals or teams fragile. Learning to notice and remove harmful beliefs and negative distortions of reality is the first step in leading a group of people in a post-COVID world. The second workshop teaches leaders how to access what is best about each member of their team. With this information in hand, optimizing and organizing resources to gain from possible upside events is conceivable. By studying how individuals and teams organize their strengths to complete idiosyncratic tasks, leaders can help create scenarios where more is gained than lost in unpredictable situations. Learning what sort of environment and characteristics help the team operate “optimally” involves shifting from an individual mindset to building a collective consciousness. The robust science of positive psychology and

growing philosophy and application of antifragility can help leaders not only learn how to navigate uncertainty with their team, but also how everyone can leverage randomness for exponential gains in well-being for the collective. For now, antifragility simply means a individual or system that benefits from disorder, randomness, or shocks (Taleb, 2012; Taleb, 2018).

Antifragility? Preparing for the unknown and leveraging “it” to our benefit? How can one benefit from something unpredictable? These words and concepts sound mystical. And such lofty ambitions require some humility. It is not the case that leaders can leverage all situations to benefit the team or individual. It is the case however that some ambiguous and stressful situations are invigorating and can provide exponential returns for the team and the individual. This paper revolves around two universal truths: 1) there is much about our existence and the natural world that is unpredictable, and 2) each human has strengths that can help them not only navigate, but flourish from the uncertainty of unpredictable experiences, shocks, or randomness in life. COVID-19 has shown just how little we can predict and how quickly life can change. The workshops and research below reveal how leaders can help develop individual and team excellence and create energy from random and unpredictable events that yield a more prosperous future.

Leading in the Real World and COVID-19 Era

Before exploring the concept of antifragility it is important to frame what exemplar leadership looks like in the real world. In the context of this paper, leading others is synonymous with coaching and guiding through inquiry as opposed to inefficient behaviors of directing and telling (Schein, 2013). Building on decades of research, which includes millions of data points about worker experience in large and small organizations, Buckingham & Goodall (2019)

suggest that measuring and understanding leadership is about studying followership. We follow others because we see in them a compelling display of some strength that gives us hope and a vision for a better and unknown future (Buckingham & Goodall, 2019). The power that brings together a group of people toward a common purpose is individual and collective hope; a sense that what lay in front of the team, with the direction of the leader, is worthy of each individual's pursuit. When a person consistently paints a clear picture of the future that shows how an individual might uniquely contribute to a broader mosaic, we call that person a leader. In turn, because of this hope, we are willing to give extra effort, make difficult trade-offs, and the perhaps most importantly, we give our most precious resources—time and talent—to this person and purpose.

Let us also explore what leadership is not. Buckingham & Goodall (2019), point out that in “theory-world” (e.g. many college lecture halls, most corporate training programs) there have been many complicated and varied attempts to build out a valid list of what makes a leader effective. Such lists include competencies such as execution, decisiveness, or strategic thinking. However, the moment we turn to the real world, and look at idealized leaders who surely reflect these competencies, we find that they are *not* expertly well-rounded individuals that check off the requirements fit for leading. Buckingham & Goodall (2019) offer a few compelling examples: Steve Jobs practiced questionable ethics by returning his cars every 6 months to avoid taxes from the IRS; Winston Churchill, who is renowned for his inspiring and astute war-time strategies, was run out of the country for ruinous policies and behavior in the late 1920s and early 1930s. During COVID-19, stories of Churchill's exemplar and inspiring leadership are back in the press. However, Erik Larson, a historian and author of *The Splendid and the Vile*, was able to review archival documents, concealed diaries, and previously unseen intelligence

reports, and provides us with a comprehensive view: “[Churchill] a man who, despite his faults was a terrific leader for this particular period because he was very good at helping people find their courage” (Zeitlin, 2020). Another way to read this insight would be: Churchill consistently organized himself to do what he could do best, within a particular domain, to provide value for his team and his country. He lead *in spite of* his weaknesses, not because he worked especially hard to fix them. In a perfect world, there would be a list of highly reliable competencies (e.g., empathy, agility, strategic communication) that all leaders would learn and employ to cope with any reasonably suspected situation. But if COVID-19 has taught us anything, it’s that the world and people are unpredictable, idiosyncratic, and messy. To stabilize his team, one leader might use an analytic disposition to review and summarize the latest COVID-19 data from the Center for Disease Control and stabilize a team with facts. Another leader may approach leading during COVID by extending time during weekly one-to-one meetings with each team member to ask empathic questions and provide much needed attention during uncertainty. The reality is that each person—every leader—learns in an emergent way via navigating successfully the randomness of each day and human interaction.

If you are a leader of leaders (we call these people executives), leadership may mean something slightly different. In the upper regions of the corporate ladder, leadership is about expert allocation of resources that yield the highest return and smallest amount of risk. Beyond operating expenses, and physical assets, leaders are expected to use other resources such as the time and talent (human or psychological capital) in their organizations and teams as efficiently as possible.

With this foundation, leadership in the COVID-era is increasingly about two things: 1) successfully working with one’s followers to collectively stifle real and underlying fears (of

uncertainty) that distort our view of what is possible, and 2) positioning or reorganizing resources (including humans) on teams and across organizations in ways that limit downside risk and maximize exposure to upside gains. The following paper will integrate concepts of positive psychology and practical risk theory (antifragility) that create a malleable yet durable approach to leading in an unknowable future. The author will discuss how leaders play a role in pointing out what limit an individual or group perspective at work. Then, with a more objective view of future events, explore how positive emotions, strengths, mental contrasting, and hope work together to create exposure to experiences and tasks that *give* energy to individuals and result in optimal work outcomes. Much of the work in positive psychology over the previous decades can inform ways to bring about what is best in people and systems. Perhaps the most succinct version of this research is as follows: we follow others when they make us feel that we matter, now and in the future. Mattering is made up of adding value and feeling valued for how we show up at work as unique individuals (Prilleltensky, 2016).

History of Antifragility

Antifragility is a phenomenon whereby an individual or system gains more than it loses (i.e., benefits) from shocks, randomness, or uncertainty. Nassim Taleb is the inventor of this term and it's foremost authority. Since 2001, he has put together a five-part argument that revolves around human philosophy, statistics, unpredictable events (risk), and exposure to upside and downside randomness or shocks. Taleb's books have sold millions of copies and landed on the New York Times best-sellers list for consecutive weeks. Writing in the *New York Times* after the global financial crisis of 2008, David Brooks, commented on Taleb's books from the early 2000s and suggested, "Taleb not only has an explanation for what's happening, he saw it

coming.” (Brooks, 2008). A brief summary of Taleb’s books is provided in Appendix A and represents an outline of how antifragility was developed over time.

In 2009, Taleb was identified by a global study done by Forbes to name “The Top 50 Most Influential Business Thinkers” (2009). By training, Taleb received both his undergraduate degree and Ph.D. from Paris Dauphine University, while earning his M.B.A. from the University of Pennsylvania at the Wharton School of Business. His practical work experience includes two decades studying, navigating, and benefiting from risk as a derivatives trader. To wit, Taleb has formal education and experience as well as practical wisdom on the topic of leveraging random events to benefit from upside risk. The point to this profile on Taleb is to bolster the forthcoming connections between risk, randomness, stress, and the topics of positive psychology. This argument will focus exclusively on his latest works: *Antifragile: Things That Gain from Disorder* and *Skin In The Game: Hidden Asymmetries in Daily Life*.

What is Antifragility?

Taleb’s first three books review the underestimated role of randomness in our lives and warned about the implications of overestimating our ability to predict significant events and their impact. In *Antifragile: Things that Gain from Disorder*, Taleb (2012) provides a response to the question of: “What can a person or system do to limit exposure to events with massive downside risk and increase exposure to upside gains during uncertainty?” This is the foundation of antifragility: 1) uncertainty, randomness, and risk are naturally occurring and unavoidable inside complex systems, 2) some things benefit from this uncertainty 3) individuals and systems can organize themselves to gain from this phenomenological disorder instead of fighting it or simply “getting through”. A review of each element is provided below with additional context and examples:

- 1) Uncertainty, randomness, and complex environments: During the time Taleb was publishing *The Black Swan: The Impact of the Highly Improbable* (2007) and *Antifragile: Things that Gain from Disorder* (2012) another leader was gaining practical experience leading teams in uncertainty. Four-star General for the U.S. Army, and former commander of the Joint Special Operations Command (JSOC), Stanley McChrystal, was in charge of understanding the nature of (and eliminating) emergent terrorist cells throughout Afghanistan and Iraq (Gates, 2014). Reflecting on his experiences in this novel war on terror McChrystal authored *Team of Teams: New Rules of Engagement for a Complex World* (McChrystal, Collins, Silverman, & Fussell, 2015). McChrystal and his coauthors emphasized that “shared consciousness”—a radical transparency of information across geographies, governments, and layers of the armed forces—along with “empowered execution”—decentralizing choice to the local source where intelligence is fresh—are central to leading well in complex environments. A complex system is one that “...have a diverse array of connected elements that interact frequently. Because of this density of linkages, complex systems fluctuate extremely and exhibit unpredictably” (McChrystal et al., 2015, p.57). A single team at work—which include humans of increasingly diverse makeup—would fit a simple definition of a complex system. However, teams of teams also interact uniquely across the organization to get work done, which also meets this definition of complexity. Importantly, this environment or phenomenon is beyond complicated. A system is complicated if many parts are joined in generally simple ways: a combustion engine is difficult to understand, but can be broken down into deterministic relationships that rarely change outside of the

norm (McChrystal et al., 2015). In this environment, prediction is possible and can be (but is not always) highly reliable.

The challenge of prediction in a complex environment is the rate at which interactions between variables occur (e.g., consider how often the weather report in your local town or city *actually* represents the conditions outside your door). Outdoor conditions are a simple but helpful analogy as there are many interdependencies in moment to moment changes in temperature, humidity, or barometric pressure that ultimately produce weather throughout the day. Our best predictions about future weather conditions are designed off readings that are immediately out of date as the earth has continued to turn while the calculations were being tabulated. Consider what our internal weather might look like: how many variables impact our moment to moment mood and actions? Complexity can happen concurrently at various levels inside of systems such that some variables are interacting to create and shift mood, while at the same time, complex and interdependent systems within the body are regulating countless ebbs and flows to maintain an approximate equilibrium.

- 2) Some things benefit from disorder: Wind is a random phenomenon and carries energy that can be destructive (e.g., wildfire) or productive (e.g., windmill). Likewise, stress may also be viewed as random energy that represents change and disorder in consciousness. Depending on how the stressor is perceived, the forthcoming event can be harnessed for good or experienced as defeating (McGonigal, 2016). This paper will use the terms “stress”, “randomness”, “shocks”, and “uncertainty” interchangeably to reference the environment in which work tasks are completed in a complex environment.

Taleb (2012) provides a framework to categorize how individuals and systems (e.g., teams, teams of teams) respond to stress. First, “fragile” is used to describe something that seeks to avoid shocks or surprises. At best, what is fragile will not be harmed at all through avoidance of stressors. At worst, what is fragile is broken beyond repair or usefulness from encountering uncertainty or shocks (Taleb, 2012). A glass cup inside a shipping container is a good example of something that is fragile. If the glass cup is kicked, dropped, or harmed, it will weaken, break, or become less useful. Thus, a fragile-like person may behave with extreme cautious to limit risks and randomness at all costs. Remember, at best, the fragile avoids stress at all costs to remain unharmed and feel confident that is the best path forward. Second on the continuum, is the robust. A robust-like persona (used interchangeably in some cases with resilience to draw connections with psychological vernacular¹) is generally resistant to stressors and uncertainty through some inherent or learned capacity. Therefore, robust describes the thing, individual, or group which bends but does not break during shocks or unexpected events (Taleb, 2012). And finally, the antifragile-like person is meant to connote an individual or system that gains more (e.g. knowledge, ability, resources, momentum) from disorder than is lost (Taleb, 2012).

¹ There is a necessary caveat in making this connection between the definition of robust in conceptualizing antifragile, and resilience in conceptualizing well-being. Many studies describe some added benefit from becoming resilient as opposed to being less resilient: ability to navigate day-to-day circumstances, bounce back faster from negative events, and learning after the fact (Reivich & Shatte, 2002). The author accepts these observations and departs from Taleb’s extreme and narrow view that all resilience systems stay the same and do not improve (Taleb, 2012). However, by organizing oneself in antifragile construction there are still meaningful differences from resilience. First, there is *exponential* (as opposed to incremental) upside benefit from exposure to some uncertainty. And more importantly, for the antifragile, that benefit is accrued *during* the event and *from* the randomness, not by using time and effort (additional resources) after the fact as in research relating to *Post-Traumatic Growth*.

Before thinking about the antifragile as a mindset or practice of a person, there are examples worth reviewing from the natural world. For instance, the human immune system gains from encountering disorder. The immune system is a subprocess of natural selection-based evolution that involves an organism being challenged by a constantly changing ecosystem. Over time, the immune system learns from unique circumstances and are better prepared for future shocks. This intelligence is then passed on to future offspring who benefit. By coming into contact with small amounts of randomness (e.g. bacteria), with time to recover, our immune systems do not just bounce back, they benefit greatly. Vaccinations, or *hormesis*, are similar in that it represents a proactive yet small risk of ingesting poison (or some stressor) that provides exponential benefit to the body in the future (Mattson, 2008). Other applications of antifragility include: bio-medical engineering cell factories (Danchin, Binder, & Noria, 2011), designing emergency network operations (Hespanhol, 2017), urban water systems (Babovic, Babovic, & Mijic, 2018), and the “simian army” within Netflix, a system designed to create true customer outages for the network to learn how to avoid significant disruptions (Ramezani & Camarinha-Matos, 2019).

- 3) How individuals and organizations can organize for antifragility: In *Antifragile*, Taleb (2012) outlines various principles and practices that are useful in a world that is increasingly more volatile, unpredictable, complex, and ambiguous. Here we will review those concepts in more detail: a) Via negativa: adding value by various means of subtraction; b) Naïve Interventionism: a human disposition to think that helping others is more likely to benefit them than to incur harm; and c) Optionality: a process of positioning oneself with the ability to tinker and test for optimal return on effort.

Together these antifragile principles can help leaders approach problems and opportunities with a better understand of risk and efficiency.

Via Negativa

Via Negativa is a way of thinking that Dionysus used to understand God, or the Divine, in ancient Greek mythology. A mindset of via negativa seeks to understand by asking what God is *not* rather than what God is (Taleb, 2012). In biblical teachings, lessons of via negativa are presented in the *10 Commandments* as “shall nots” (e.g., thou shall not lie, envy). In life, relationships, and in the business context, these teachings are a tool to think about what one should *not* do as opposed to what one should do. For example, if a patient shows up at the doctors appointment with high blood pressure, the via negativa approach would be to remove unhealthy foods and unnatural sugars from the diet; this is adding value through subtraction or removal. At least one other option would be for the doctor to add more to the complex workings of the person by prescribing high blood pressure medications to the patient; this is creating value through addition. The caution with adding more to a complex environment such as someone’s internal chemistry is that it will increase the complexity of the system and create observable or opaque changes elsewhere.

The advantage of thinking “via negative” is that it helps remove bad habits from the individual or system and inhibits many from manifesting in the future. Large organizations are fertile grounds for complex and interdependent processes. Thus, prevention of future problems is time and resource gained that would otherwise be lost to intervention. Moreover, using via negativa to remove complexity from the individual and the team adds tremendous value in simplifying what success means and where time should be spent. As a leader, there are many things you might notice and remove that get in the way of using the time and collective resources

of the team efficiently: distractions arising from unclear and competing priorities, using multiple collaboration tools designed to improve communication and manage one's time, meetings designed to increase effectiveness that have too many agenda items. By removing these inefficiencies there is more space and time for the entire team to focus on what truly matters. Our inner thoughts are just as complex as the workplace and people we navigate. Thus, the first workshop will discuss how leaders and teams can approach thoughts and beliefs "via negativa", to remove limiting beliefs and toxic thoughts that inhibit individual and collective success.

Optionality

Via negativa helps individual and systems become antifragile by removing what is causing additional complexity. Thus, as the environment changes quickly, the antifragile have less to organize and recalibrate in order to make a change and test its benefit. In this sense, optionality simply means to have a lot of options. Taleb (2012) describes optionality as a choice—with potential for more upside than downside—used with good reason.

Because we cannot reliably predict the future in complex systems and uncertain times, it is better to have and maintain optionality than to stake significant time and resources on a plan (which is a series of predetermined choices based on expected outcomes). In the work context, experts in change theory suggest that 70% of corporate change initiatives fail (Nohria & Beer, 2000). Optionality provides value at the individual level as well as the team and organizational level. For instance, many distilleries across America successfully pivoted from distributing alcoholic spirits in January of 2020, to providing hand sanitizer based on market demand stemming from COVID-19 (Newman, 2020). Those companies who were able to changing recipes, adjust internal machinery, and quickly reorganize individual and team operations greatly benefitted from this upside option. It's unlikely a strategic planning offsite for leaders of various

distilleries in late 2019 included plans of this sort. Some organizations cannot pivot to capitalize on this sort of unexpected upside events due to their complexity, and thus have less optionality. So, while leaders and teams inside complex organizations feel a sense of perceived safety from stable income, there are many unpredictable factors (e.g., market environment, investor beliefs, layoffs, change in team leader) that make the individual fragile.

As a quick look forward to the workshop, optionality for individuals within this paper is synonymous with the choice to use their unique human strengths. Some people are drawn to analytical thinking and others to creative design or music. Robust and reliable science from the field of positive psychology show that the most important predictors of job performance are the ability to use one's unique strengths (Harzer, Mubashar & Dubreuil, 2017). Leaders that understand the strengths on their team have increased optionality to gain from an unknowable future events.

Naïve Interventionism

Picking back up on the medical example provided above about going to the doctor, naïve interventionism is a phenomenon where one party believes they are helping the other but may be causing observable or opaque harm. Concern about medical naïve interventionism (iatrogenics) dates back hundreds of years, but studies continue to show its pervasiveness in modern society. In reviewing documents from 1974, created by a sub-committee of congress, Sharpe & Faden (2001) found that 17% of surgeries (at least 2.5 million) were superfluous and likely attributed to 12,000 preventable deaths. While these data are alarming, there are other circumstances where naïve interventionism is more pervasive and readily accepted.

As a leader in corporate settings, naïve interventionism manifests as “feedback”, “radical candor”, or “constructive criticism”. The second workshop presented below will help leaders

understand the value and efficiency of positive coaching that lifts team performance in ways typical feedback cannot. Leaders often provide feedback to team members as a way to intervene. This effort is intended to help by explaining to others how they should think, behave, or act to achieve the intended goal. For instance, a leader may provide feedback to a subordinate about what went wrong during a sales presentation to the client. In short, they are telling the team member what they did incorrectly and *the* proper way to present information to the client. Unfortunately for both parties in this example, the intended benefits are small compared to the possible harm. Even if there was just one way to sell to that particular client, the opportunity has passed, and the leader's opinion (which may or may not reflect what led to losing the deal) may provide little insight about what will be useful in another future meeting with a different client. However, the downside to “constructive criticism” is large. Negative feedback hampers learning and can stifle motivation (Zhuang, Feng, & Liao, 2017). Thus, the leader attempting to help by telling the employee what not to do, or how they should have acted, is overexerting energy and resources to intervene in scenarios and ways with limited return on that effort.

In complex and open environments—such as conversation, work on teams and across organizations—there exists equifinality, which allows for many unique ways to reach common end goals (Gresov & Drazin, 1997). Constricting options through naïve interventionism, or a preferred solution, limits possible upside for the unique person doing the work. Perhaps the subordinate, an expert writer, could have expedited the entire conversation and inspired confidence via an email instead of a live demo and presentation that went poorly. That said, there are moments when leaders are literally paid by their organization to oversee and intervene to limit or stop harm (e.g., when laws and rules are broken, medical checklists and protocols are followed).

Summarizing Antifragility

From years spent in large organizations, Taleb (2012) posits that human and organizational fragility is increased via a bias for adding more complexity (instead of adding value by removal of what is bad), which manifests as naïve interventionism. These occurrences happen often, operate at the individual, team, and organizational level, and together, increase complexity and limit optionality for all parties. The workshops designed in this paper provide guidance about what leaders can do to avoid this fragility and flourish in the uncertain future. When interventions or advice sound especially appealing, such as a promotion or “preferred” means of task completion, it is worthwhile to consider if that logic applies to the human in question with *their* unique abilities or preferences in mind. Moreover, leaders can ask neutral questions that help *employees act* in non-naïve ways and increase the likelihood of positive upside events in the future.

Antifragility is not about fortune-telling. Rather, it is a lens by which we can look at the world as rationally as possible and consider whether or not actions and choices in a certain domain increase our exposure to possible upside events or not. Likewise, antifragility is about the prevention and minimization of significant downside events. Antifragility is a mindset of leveraging a world full of uncertainty, not fighting against it. In this sense, it is about organizing oneself to make choices that yield exponential benefit when positive upside events occur. The growing field of positive psychology can inform us about what is objectively good about people that should be leveraged to benefit from uncertainty.

History of Positive Psychology

As with many social or academic movements that expand our awareness of what's possible, there is often a critical event that catalyzes its existence: The clearest demarcation regarding the movement toward a "positive" psychology (versus pathology) came during Martin E.P. Seligman's inaugural speech as President of the American Psychological Association in 1998. In his address, he spoke about what he and his compatriots might do about two topics: 1) ethnopolitical violence, and 2) a new science of human strengths (Fowler, Seligman & Koocher, 1999). This second topic was the surprise of the evening. In presenting this choice as the President of the American Psychological Association, Seligman gave it legitimacy, funding, and encouraged his fellow scientists to consider a broader perspective: the value of what lies beyond a deficit model of the human condition. He bolstered a vision of positive psychology via three claims: 1) After World War II, there had been a justified, but unbalanced, focus on healing and easing trauma; 2) "Psychology as usual" was struggling to make a dent on its intended goal: collectively, it *had* identified effective treatment for 14 mental disorders it could not previously treat in the preceding 50 years (1948-1998), but the number of affected individuals with significant depression had *increased* 10-fold as compared to four decades ago; 3) The academy should use some of its resources to consider that the answer to such a dilemma may not lie in relieving the afflicted individuals, but in prevention of depression in our youth via study and promotion of what is good in humans (Fowler et al., 1999). Importantly, Seligman emphasized a scientifically rigorous study of the good in life that was valid and appealing in practice.

The choice Seligman posited on that evening represented a broadening perspective about how psychology could be studied and applied to help others and prevent avoidable harm. This paper shares a similar view about the topic of leadership: in the wake of COVID-19, leaders

should continue to offer care and help to afflicted individuals struggling with uncertainty and fear at work, but they can also lead individuals and teams in ways that limit exposure to downside events and increase exposure to possible upside events during uncertainty.

The 1998 Presidential American Psychological address was a critical moment for the field, but it wasn't the first time a group of people seriously considered the need for studying the good in life. *Happier?* (Horowitz, 2018) captures the arc of human interest in happiness and well-being. Under his historical analysis, Horowitz found many examples of earlier interests in human well-being: Normal Vincent Peale's best-selling book from the 1950s, *The Power of Positive Thinking*; in 1946, the World Health Organization (WHO) vowed to understand health as encompassing a state of complete physical, mental, and social well-being and not simply the absence of disease or infirmity; 19th century philosopher and psychologist William James wrote on attention, and other priorities to build a healthy inner happiness; and many centuries before philosophers—most famously, Aristotle—were contemplating the virtues of the human spirit (Horowitz, 2018).

Aristotle pointed out that most people are enslaved by their emotions, and find it difficult to see the pattern of pursuing external pleasures (Melchert, 2002). His criticism was that most pleasure is sought for another sake, in a circle that cannot lead to contentment. Or worse, pleasure is offered or received via another person, and thus, happiness is out of each individuals control (Melchert, 2002). Aristotle believed happiness was created through the awareness of knowing the soul and using those virtues by our actions. To discover the soul, he taught that we need self-awareness of our natural tendencies, knowledge, and skill. With this in mind, the good life manifests through wisdom that comes with experience attempting to use the right amount of virtue at the correct time and place (Melchert, 2002). Following this observation, positive

psychology has focused on helping individuals live full lives by refining and utilizing virtues in appropriate proportions for problems or context. Or, in simple terms for the discussion here: one way to become aware of the virtues that best represent our unique selves is to tinker with them and remember what works as we navigate uncertainty.

Another goal of positive psychology relevant to the future of leading in uncertainty is to explore what leads to a fulfilling and rich inner experience in life. One of the founding fathers of positive psychology, Mihaly Csikszentmihalyi, provided insight to this question by studying how some individuals create a rich subjective life experience with very little resource (e.g., money, family), while others languish in a sub-optimal inner experience with an abundance of resources. In *Flow: The Psychology of Optimal Experience*, Csikszentmihalyi (1990) suggested life is made up of the sum of our consciousness. And importantly, individuals can actively take part in how this consciousness is ordered. In short, for any given person, some information, questions, or activities create inner disorder of the consciousness and take energy away from the mind (*psychic entropy*). Alternatively, other information, questions, or activities create inner order and yield additional deposits of energy for the mind (Csikszentmihalyi, 1990).

Research participants consistently described this latter feeling as if they were “flowing” along toward the intended goal even though the task may have been challenging. In this mental state, information (about a problem, task, or opportunity) continues to move into ordered consciousness and is congruent with goals. “Energy *flows* effortlessly” (Csikszentmihalyi, 1990, pp. 39). Using a novel Experience Sampling Method, Mihaly uncovered that ordinary experiences inside and outside of work (e.g. taking a walk, rock climbing, a game of chess, working a factory machine, conversation with other people, conducting a surgical procedure), in any ordinary week, could lead to spectacular levels of enjoyment (Csikszentmihalyi, 1990). By

interviewing people who reported higher levels of flow, Mihaly and his colleagues discovered that flow was likely to occur when complete attention was given to an event that balanced significant challenge with available skill (Csikszentmihalyi, 1990).

Lastly, throughout decades of field and laboratory research, Csikszentmihalyi (1990) found countless examples of individuals who were able to organize their consciousness to experience high levels of enjoyment from difficult situations: a blind chess master or a female executive who perseveres in a sexist corporate culture. These individuals found a way to organize their skills in respect to adversity and recycle disorder into gratifying challenges. These align with contemporary research regarding high levels of achievement for individuals who are able to use their strengths in challenging tasks (Tozman, Zhang, & Vollmeyer, 2017). Another pattern in many reports after a state of flow is a deeply felt positive emotion (e.g. awe, pride): “As the rock climber said, ‘You look back in *awe* at the self, what you’ve done, it just blows your mind.’” (Csikszentmihalyi, 1990, p.41).

Consistent with findings from flow research, a small group of researchers in the late 1990s and early 2000s began to find interesting relationships between positive emotions and stress, creativity, and work. Important to this discussion on leadership during and after COVID-19, are the findings that positive emotions speed physiological recovery after stress (Fredrickson, Mancuso, Branigan, & Tugade, 2000; Fredrickson, Tugade, Waugh, & Larkin, 2003), encourage flexible cognitive processing and problem solving and build up individual and social resources for future utility (Fredrickson, 1998, 2001; Fredrickson & Branigan, 2005).

Another goal of positive psychology is to help individuals avoid harm and/or overcome challenging events in life and minimal negative impact. Reivich and Shatte (2002) described the most comprehensive rationale for resilience training by suggesting it serves to help an individual

overcome various obstacles, steer-through the peaks and valleys of the everyday experience, reach out with confidence, and bounce back from a variety of life-events. There is much compelling research (of which this author is in favor) as to why companies should invest in building resilience. However, layering in aforementioned principles of antifragility (e.g., via negativa, naïve interventionism, optionality) may help to identify more robust interventions. Below are two examples that consider how positive interventions centered around resilience might increase individual fragility.

Over the last two decades a number of protective factors have been identified that help build the sort of resilience described above. A few of those factors include: self-regulation, positive institutions, connection, biology, and optimism (Reivich & Saltzberg, 2020). With this sample list, we can observe which protective factors might be more or less robust than others in building resilience and well-being for an individual. Consider that the current COVID-19 pandemic has isolated (at least physically) almost all of modern society in their respective dwellings. As a result, under legal order, there is no direct physical interaction with positive institutions or large gatherings (e.g. church services, university classes, theatre). While these circumstances are rare—and it is perhaps the point of resilience that we overcome rarities on any given day—it is a useful example regarding the dark-side of a narrow resilience strategy. There is a potential increase in the inability to bounce back from the struggles of daily life (due to the social distancing restrictions imposed by this event) if an individual has placed a substantial amount of their resilience in the ritual and restoration of a live weekly religious service. Similarly, if theatre or musical practice with others outside of work is a critical resource for one's resilience—singing in unison on stage as transcendence—it's absence may do more damage than someone with a broader resilience repertoire to choose from (i.e., optionality). And

while it's not likely any individual gathers all their skill to bounce back via one resilience strategy (such as a positive institution), there is reason to consider the various resources and requirements that make a resilience portfolio fragile, robust, or antifragile. To wit, some protective factors are intertwined with larger systems and structures make our resilience fragile and useless in this time of uncertainty—the very moments we depend on it most. An organization may achieve it's goals of increasing resilience by raising this sort of awareness to it's employees, who then benefit from a more stable level of well-being. For instance, increasing self-regulation via mindfulness—a practice of becoming more aware of self, experience and surroundings (Fuente, Mañas, Franco, Cangas, & Soriano, 2018; Leyland, Rowse, & Emerson, 2019)—may be more robust or even antifragile as the value of this resilience strategy *increases* as randomness, stress, shocks, or unpredictable events occur.

Another example of fragility within positive psychological concepts at work involves psychological safety. Psychological safety is a research construct that describes a believed amount of retribution that might come from taking interpersonal risk in the workplace (Edmondson & Lei, 2014). Organizations seek to increase safety and trust on teams as it correlates strongly with teamwork, engagement, information sharing, and learning (Edmondson & Lei, 2014). Research over the past two decades show that productive work behaviors such as creativity and speaking up are all positively related to increases in psychological safety (Edmondson & Lei, 2014). Practically, these are the precursors to innovation and valued by companies in a market economy looking to differentiate their products. However, as with resilience, organizations and individuals should be aware of how much psychological safety they invest and yield from any particular source.

Consider the case of a diligent young engineer who has invested the first two years of her career working for the same boss at a technology company. She has invested most of her time building rapport and trust with this boss. Neither party is afraid to share their unique ideas about potential projects or take interpersonal risks. The engineer rarely speaks as openly with the boarder team but there is a significantly higher level of trust with the leader. Suddenly, and without warning, her boss takes a job with a competitor and a new team leader is brought onboard within the week. The engineer's narrow and deep investment of psychological safety with her boss, what made her feel secure, had extremely high exposure to downside risk, and created a vulnerability in her overall well-being when something unexpected occurred. Thus, the opportunity for organizations (and positive psychology) is to emphasize psychological safety as a robust resource for well-being, engagement, and connection when it is developed more intentionally across various environments. Organizations and individuals limit exposure to negative shocks and become more robust when there is psychological safety throughout and between it's workstreams instead of in dyads or pockets.

Lastly, Chris Peterson, a significant contributor to early work in building the foundation for positive psychology, summarized the intent of the field in three words: "Other people matter" (Peterson, 2006, p. 249). The isolation stemming from COVID-19 has brought even more sincerity to these words. More than ever, leaders have a role to play in reminding their teammates about the value and worth they bring to the organization. Indeed, we follow leaders because they give us this sense of mattering and project a sense of hopefulness about the future. Thus, the study of hope is essential in positive psychology. Hope has been described in many ways by scholars over the years, but until very recently there was no unifying theory (Tomasulo, 2020). Charles Snyder, an eminent scholar on the subject of hope, who also wrote the first

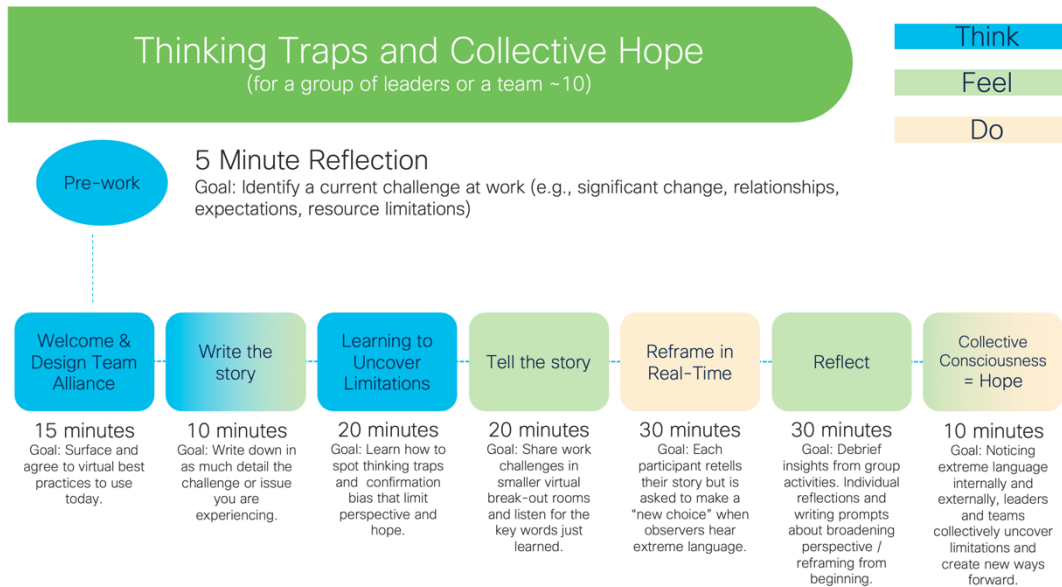
academic text for the field of positive psychology, provides an explanation of hope that has been foundational for research over the past two decades: Hope is defined as “the perceived capability to derive pathways to desired goals, and motivate oneself via agency thinking to use those path” (Snyder, 2002, p. 249).

This history of positive psychology summarizes the overall goals in the field: bring forth what is good in people (virtues/strengths) and build up resources that help prevent adversities or recycle those experiences into useful knowledge and wisdom for the future. Research from each of these areas will be integrated into the workshops outlined below to increase levels of antifragility for leaders and teams.

Workshop #1: Removing Thinking Traps & Building Collective Hope

The goal of the first workshop (outlined below in Figure 1) is to help leaders and teams remove thoughts, actions, and behaviors that inhibit individuals and team excellence. Leaders

Figure 1
Workshop #1



and/or teams that participate in the workshop (outlined below in Figure 1) will learn how to practice real-time reframing of harmful thoughts and negative events that occur often.

By learning this skill, leaders can broaden their perspective about future situations and choose among various paths that provide additional upside benefit. In the sections that follow we review research on cognitive distortions, confirmation bias, and thinking traps which can limit hope and action in uncertainty. This workshop was designed via insights from the latest positive psychological research as well as the authors practical experience facilitating executive and team development over the preceding eight years in a multinational high-tech Fortune 50 organization. In the COVID-19 era (since March 2020), the author has facilitated 45 workshops focused on increasing consciousness and trust on teams, clarifying priorities, and building team rituals that drive toward shared goals.

Cognitive Distortions

The first step to leading in uncertainty is examining what internal mechanism create fear, worry, and stress about the future. In short, the thoughts passing through our mind inform how we view (or distort) the world. However accurate, these cognitions are used to appraise the extent to which future events represent stressful conditions and future adaptation (Beck & Haigh, 2014). In studying how initial beliefs influence meaning, Ellis (1958) developed the “Activity, Belief, Consequence” (ABC) Model which describes how an activating event is followed by an internal belief about the activating event that leads to consequences. Typical consequences include emotions, behavior, or actions and reflect moment to moment experience. The key insight from this model is that our emotion and behaviors are not directly influenced by the external environment (activating event) but via the perception of those events as they relate to individual beliefs (Ellis, 1958). Building on these conceptual models and clinical observations,

Beck (1964) identified that idiosyncratic negative beliefs about one's self (e.g., individual worth, personal characteristics, expectations) that become consistent ways of explaining activating events, were linked to various disorders of consciousness (e.g., depression).

Individuals that lead others have been selected by their followers as trusted resources. As such, they have some duty to notice the concern and well-being of their followers. Beyond care and concern, depression (as just one outcome of cognitive distortions) at work has significant black and white cost. Researchers found that depression accounted for Lost Productivity Time (LPT) of 5.6 hours per week (Stewart, Ricci, Chee, Hahn, & Morganstein, 2003). Moreover, 81% of the cost of LPT, estimated at \$44B, is explained by reduced performance (Stewart et al., 2003). Small moments of cognitive distortion can also impair an individual or team and/or cost them significant time and resources. For instance, if a conference call with a client falls completely silent (initial action), a sales representative may believe it is because they talk too fast and confused the client (belief). In turn, the individual feels embarrassed about being inarticulate or charismatic (consequence). Attempting to recover from the perceived error, the salesman might act inauthentically and lose the trust of the client. In this model beliefs are used to describe many things that influence our perception (e.g., assumptions, expectations, fears, rules). Importantly, some beliefs are created in absolute terms in the mind as a result of observed action of self or others, and manifest as thoughts that include "should", "ought", or "must" (Beck & Haigh, 2014).

Imagine a similar scenario where a team leader asks a project team about a fast approaching deadline with just a few minutes left on a conference call. A few short responses are provided, then the phonenumber falls silent for a long pause. Overall progress is unclear. After hanging up the phone, the leader creates a story with various beliefs about the future of this

project, and responds with a solution via email to what needs fixing (e.g., “Bethany, I can’t get straight answers from the team, so things *must* be falling behind on this project. The new guys *must* need some help. You’re the best at tight deadlines and *should* be able to jumpstart progress no problem”). In this scenario, the leader avoided asking a clarifying question on the call—due to the belief that silence from the team represents either no progress or uncertainty, and likely would have caused more awkward silence—and elected to step in and solve the perceived issue. In less than five minutes, one moment of pause led to increasing workload for another worker and reduce confidence in the original team.

Building on this foundation, and designing methods to increase resilience and perspective, Reivich & Shatte (2002) developed the Action-Thought-Consequence (ATC) model. Evolving the ABC Model, Reivich & Shatte (2002) also found the practice of reflecting on “ticker-tape” beliefs led to improved work and team outcomes. In this practice, individuals are asked to write down moment to moment the thoughts (and beliefs) that showed up in a particular situation that ended in a undesirable outcome (consequence). Overtime, individuals may not need to write down the process, and learn to respond in real-time to distortions operating on the beliefs by asking simple questions that create disconfirmation (Reivich & Saltzberg, 2020).

Shortcuts and Thinking Traps

Why do we fall into these patterns of thought that may lack accuracy and harm us? One reason may be the evolutionary advantage that comes with paying particular attention when things go wrong. Because there has always been too much information to take in during any given scenario, the brains that prioritized negative possibilities (e.g., “Is that the color mushroom that is poisonous?”, “Was that the sound and shape of an enemy or animal I should be afraid of?”) were the brains that survived to pass on their genes. Learning to make split-second

decisions requires the brain to take mental shortcuts based on heuristics that helped in the past (Reivich & Shatte, 2002). When taking these shortcuts preserved life they may have been justified, but today mental shortcuts learned from the past create biases we apply in non-threatening situations. Leading well in uncertainty requires awareness of at least three biases. The first is a negativity bias which causes our minds to overvalue the importance and accuracy of negative elements in life (e.g., emotions, thoughts, events)(Rozin & Royzman, 2001). Confirmation bias, which is the preferred selection of information that confirms an initial perspective or hypothesis, yields evidence to confirm initial beliefs (Nickerson, 1998). And lastly, hindsight bias which involves thinking about prior unpredictable events as simple and obvious to have expected (Roese & Vohs, 2012). Each of these shortcuts limit perspective and overtime create “thinking traps” that lead to harmful or suboptimal outcomes.

Reivich and Shatte (2002) found that by having individuals reflect on their memories of certain events, and write down their beliefs as each moment was passing, they could see these biases and assumptions in action. In seeing more clearly the interaction between actions and thoughts—and the shortcuts we take in thinking—individuals can learn to catch these errors more quickly and increase their resilience to current and future events (Reivich & Shatte, 2002).

What Benefit is there for Leaders & Teams?

By increasing awareness of thinking traps and biases, leaders and teams can limit individual thoughts that inhibit productivity and creativity. The approach outlined by Reivich & Shatte (2002) employs the individual to notice extreme language that might signal an extreme or negative belief. One limitation to this approach is the necessary awareness of the individual to catch the extreme language or judgement and challenge it with contrary evidence. The workshop outlined above teaches leaders how to actively, and objectively, participate with others in

identify the language that is used in common thinking traps. For example, minimizing and maximizing is a thinking trap whereby the positive behavior, thought, outcome is undervalued, and the negative is overvalued (Reivich & Shatte, 2002). In conversation, a team member presenting with this thinking trap will often use the contraction “but” to move from the good (e.g., “I was glad to help out on that sales call, *but* it shouldn’t have been necessary if I wasn’t so forgetful last week”). In this example, a teammate has used a key term for the minimizing-maximizing thinking trap and a belief imperative (“should”). A leader that identifies these key terms can ask the team member to consider a broader perspective and objectively balance the value that was provided.

The list of common words associated with each thinking trap was built through a review of research on resilience, cognitive biases, and anecdotal stories from various mainstream publications that describe commonplace cognitive distortions (Lukianoff & Haidt, 2018; Reivich & Saltzberg, 2020; Tomasulo, 2020). Leaders in the workshop will have ten minutes write down a significant work challenge they are facing in as much detail as possible. Then, leaders will learn about thinking traps and cognitive biases through facilitation and teaching from a subject matter expert. Next, the leaders will break into smaller groups and present their work challenges orally one at a time. Participants that are listening to the story will be scanning for key terms that signal a potential thinking trap, and write them down as they appear. In the penultimate step, a participant will share their initial work challenge again, but this time the observers will request a new word choice (or quick reframed perspective) anytime they hear the keywords that signal a thinking trap. By asking the speaker to notice extreme language and judgements, and consider a new word choice, observers help uncover new perspectives or choices. Working together in this

way, leaders and teams can use their collective awareness to think of optimal paths forward for individuals or the group.

Expressive writing about challenging situations has been shown to have small to medium effects on increasing resilience (Greenbaum & Javdani, 2017) and individual well-being (Travagin, Margola, & Revenson, 2015). A meta-analysis of interventions to increase growth after adversity found that expressive writing during or after challenging times can reveal insights about what worked, what will potentially work in the future, and help reframe difficulties as learning experiences (Roepke, 2015). Moreover, by learning how to share challenges at work, leaders are practicing the skill of appropriate self-disclosure which can increase levels of connection across team as well as individual improve performance (Cable & Kay, 2012).

As other workshop participants listen to the challenge being shared, and ask for “new choices” when extreme language shows up, they are operating as a “positive devil’s advocate”. Traditionally, a devil’s advocate is a person who provides criticism of the discussed solution or topic without their own view for improvement (Schwenk 1990). In studying effective teams and organization, Schwenk (1990) found that Devils Advocacy (DA) was more effective at generating creative and novel solutions than gathering experts to provide recommendations with no conflict. Because this workshop revolves around the devils advocate noticing and broadening perspective about others beliefs, the devils advocate should not seek to influence another person with their own beliefs. Such effort may fall under naïve interventionism and cause harm and additional conflict. Rather, by simply pointing out objectively when the other persons language is extreme, they provide a tripwire for the speaker to consider as a potential thinking trap. The choice to reframe the situation and see a new choice is ultimately in each person’s charge.

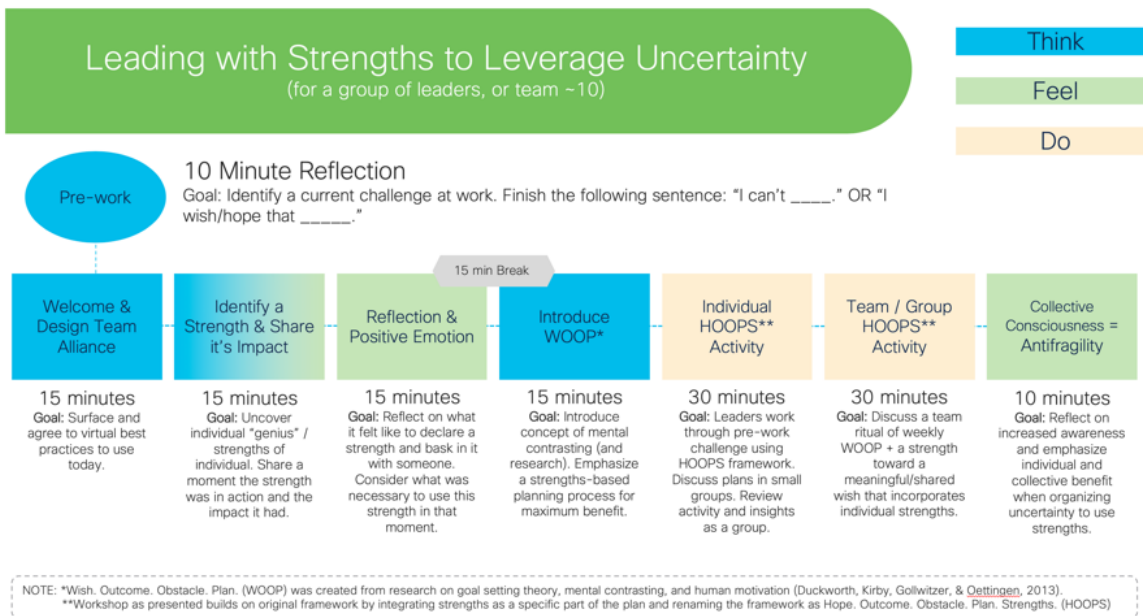
It may take courage and vulnerability to ask someone if they would like your reaction to the extreme language that was identified. However, in gently probing for a “new choice” the individual sharing their challenge may notice that the other person was truly listening to their point of view. Moreover, when challenges are reframed, and the possibility of progress is recreated, a shared sense of having one another’s back is born. Research over the past two decades show that productive work behaviors such as information sharing, creativity, and speaking up with promotive or prohibitive voice are all positively related to increases in psychological safety which are precursors to innovation and valued by most companies in a market economy (Edmondson & Lei, 2014).

Workshop #2: Leading with Strengths to Leverage Uncertainty

The goal of the second workshop (see Figure 2) is to help leaders understand how to leverage the strengths on their team to benefit from positive upside events in the future. Leaders

Figure 2

Workshop #2



will learn about their own unique strengths, then consider desirable future scenarios where they can be used more often to combat obstacles.

In building this mindset, leaders use precious resources of time and talent on their team optimally. Participants will glean more value from this workshop if they have learned to see the future in a balanced manner (i.e., challenging and interesting, instead of overwhelming and dreadful). In the first workshop, leaders learn vocabulary and skills to create more objectivity on the team. By neutralizing beliefs and thoughts that are inaccurate, inhibitory, or harmful, leaders can reframe uncertainty, stress, and shocks as renewable resources that utilize individual strengths. The second workshop is designed using the latest science in positive psychology, while also integrating relevant philosophy and practical wisdom of antifragility. The workshop includes the following elements of positive psychology that will be discussed below: positive emotion, identifying and using strengths, prospection, and building hope. These elements of positive psychology will be cultivated throughout the workshop, and ultimately integrated into a new form of mental contrasting. Together, this workshop will teach leaders how to move beyond resilience and how to cultivate significant upside benefit from uncertainty.

Positive Emotions, Perspective, and Work

In the late 1990s and early 2000s a small group of researchers began to find interesting outcomes in their research around positive emotions. Important to this discussion on leadership during and after COVID-19, are the previously discussed findings that positive emotions speed physiological recovery after stress (Fredrickson, Mancuso, Branigan, & Tugade, 2000; Fredrickson, Tugade, Waugh, & Larkin, 2003), encourage flexible cognitive processing and problem solving, and build up individual and social resources for future utility (Fredrickson,

1998, 2001; Fredrickson & Branigan, 2005). Two additional pieces of information will help clarify the value of this research within the workshop design.

First, emotions are often connected with certain action tendencies in the body (e.g., fear and run, anger and attack, disgust and expulsion, interest and approach) (Levenson, 1994). In the previous two decades, the most commonly studied positive emotions associate with various action tendencies include joy, gratitude, pride, interest, contentment, and love (Fredrickson, 2009). Secondly, consider that a crisis can be generally described as a a time of intense difficulty or danger. Throughout the COVID-19 pandemic there has been an increase in difficulty of otherwise manageable tasks (e.g., virtual team meetings or sales calls), as well as danger in otherwise normal habits (e.g., visiting customer sites for routine product or service maintenance). These challenges may also create intense stress as leaders and teams stretch to meet new deadlines with fewer resources, or make tough decisions to layoff numerous employees to keep the organization in-tact. With these two thoughts in mind, we consider what leaders can do in the wake of COVID-19.

Of special emphasis, the effect of positive emotions has been studied during other recent systemic crisis. In 2000, just before the attacks on the World Trade Center on September 11th, 2001, a study that concluded positive emotions have an “undoing effect” on the physiological stress produced by the body during stressful experiences (Fredrickson, Mancuso, Branigan & Tugade, 2000). Across 170 participants, the researchers found that a short positive stimulus (e.g. films eliciting mild contentment or amusement—think, video of waves on the beach from YouTube) immediately after intense stressor produced faster cardiovascular recovery than neutral or negative (e.g. sad) films. After the attacks on 9/11 researchers also found that some college students (who had experienced similar levels of stress and anguish as those shown in the

general public from national polls), bounced back faster from the disorienting blow to our concepts of safety and peace. The observable difference in those with higher resilience to this event was their exposure to positive emotion. To wit, those who experienced more positive emotion—a deepened sense of love for one’s family, gratitude for their freedom, friends, and colleagues—came into contact with more information and resources to stabilize and navigate the future. The finding that positive emotions can expedite our recovery back to equilibrium has been reliably found in other studies as well (Fredrickson et al., 2000).

Positive emotions do more than catalyze our physiology back to “normal”, they broaden our attentional capacity and help to build resources for future utility (Fredrickson, 2001). Studies done to investigate the broaden & build theory of positive emotions have found that just as negative emotions tend to narrow our field of vision and focus our attention on finite choices to induce specific action-tendencies, positive emotions broaden our field of vision and create a cognitively broadening of potential actions tendencies (Fredrickson & Branigan, 2005). Studies done to understand the outcomes of cognitive broadening observed participants creating thoughts that were especially novel, less-fixed, and more comprehensive or inclusive of additional information (Isen, Johnson, Mertz & Robinson, 1985). In short, positive emotions are one lever we can pull to increase consciousness of new information, perspectives, and an openness to experience (Fredrickson et al., 2003). The broaden-and-build theory makes a comparison between negative and positive emotions: if negative emotions mainly serve to prevent us from harm, positive emotions can promote new learning and accumulation of resource. Over time, a pattern of positive emotional experiences, increases ones exposure to varied perspectives and builds personal (e.g. health), social (e.g. companionship, balanced support network), intellectual (e.g. exposure to knowledge and integration of complexity), and psychological resources (e.g.

optimism, creativity) (Fredrickson et al., 2003). Thus, positive emotions are not simply hedonic feelings that come and go, but also build out novel, larger, and more unique behavioral actions we can select from in future unknown circumstances.

In a wide-ranging meta-analysis just published, Diener, Thapa, and Tay (2020) found several key relationships between positive emotions and work outcomes. In short, more positive emotion experienced at work: 1) increased positive beliefs (e.g., more ambitious goals and higher levels of self-efficacy in stressful situations); 2) increased creativity (e.g. both cognitive flexibility/creative problem solving and creative design); 3) improved work engagement (e.g. high energy and task motivation/flow on the job); 4) improved job performance (e.g. more accurate decision-making); 5) improved teamwork and cooperation (e.g. outward positive emotion increased cooperation, trust, and decreased group turmoil). Moreover, positive emotions from the standpoint of a follower, play a role in determining the authenticity of a leader (Michie & Gooty, 2005) as well as the groups voluntary turnover rate (George & Bettenhausen, 1990).

Positive emotions increase our perspective in ways that are valuable to business by hastening our recovery from negative stressors, broadening our perspective, and building psychological, social, and cognitive resources for future unknown events and experiences. The workshop outlined above evokes positive emotions by asking leaders to reflect on a moment they felt especially strong at work, or, used one of the VIA Character Strengths (Peterson & Seligman, 2004). When leaders share their own experiences in these powerful moments, as well as hear from others, a positive spiral of pride, awe, and interest is shared across the group.

Strengths: Nonlinear Levers for Collective Excellence at Work

In a traditional work environment, employees often look to the leader for wisdom and guidance on how to grow. The request is often as simple as: “Do you have any feedback about

how I'm doing?" The way leaders respond to this question is especially important in uncertain times. In the section below we'll review: 1) Evidence for using strengths at work; 2) Feedback on teams versus positive coaching; 3) How collective consciousness helps the individual and the team; and 4) How to get more of the good (avoiding a bottleneck of energy).

Strengths at Work as Effortless Effort

Centuries ago, Aristotle taught that happiness (eudaimonia) was created through the awareness of knowing one's individual soul and using those virtues by our actions (Melchert, 2002). To discover the soul, he explained that we need self-awareness of our natural tendencies, knowledge, and skill. With this in mind, the virtuous person attempts to use their uniqueness at the correct time and place (Melchert, 2002). In continuing this investigation of human excellence, Peterson and Seligman (2004) identified 6 core virtues (e.g. wisdom, courage, humanity, justice, temperance, and transcendence) and 24 character strengths (see Appendix B) that reliably appear across time, culture, and geography. Importantly, this foundational finding for positive psychology was the outcome of 55 scientists across the globe working together over 3 years to capture and define an initial but not comprehensive classification about what is best in humans beings (Niemiec, 2019).

Since the design and validation of the VIA-Character Strengths assessment, character strengths have been studied by scientists and organizations in search of improved business outcomes (e.g. higher productivity, increased profits, lower turnover). Peterson and Seligman (2004) provided theoretical evidence that individuals learn fastest and perform their best using signature strengths—those that are use frequently and intuitively. Future studies tested this theory with positive results. As just one recent example of the continuing research, scientists conducted a study that included 1,031 workers (of varying background and demographics: age,

geography, education, etc.) and found that the use of one's signature strengths had a robust impact on "in-role" and "extra-role" performance (Littman-Ovadia, Lavy, & Boiman-Meshita, 2017). Critical to this discussion, the authors also found that positive emotions mediated (had a significant effect on the outcome of) levels of strengths use at work, organizational citizenship, engagement, and job satisfaction (Littman-Ovadia et al., 2016). This mediation finding regarding positive emotion impacting the outcome of using our strengths at work aligns well another approach to studying strengths.

Clifton & Buckingham (2001) suggest a more literal approach and define strengths as activities that individuals are consistently very good at, but also yield strong intrinsic satisfaction (e.g., make us feel strong during and after). Over the previous two decades, research using this definition has found that employees who say they "strongly agree" that they have a chance to use their strengths everyday are more engaged and productive than those who respond less positively (Buckingham & Goodall, 2019). Summarizing research from the Gallop organization, Wagner & Harter (2006), found that across hundreds of companies and thousands of leaders, individuals who maximized the opportunities to play to their own strengths delivered 15% more sales revenue, 20% more profit, and the team experienced 13% less turnover. In another study, Wagner & Harter (2006) found that subordinates who received feedback on their strengths sold 11% more than those who received feedback on weaknesses. These findings suggest that with finite energy, leaders can maximize return on their time and effort by helping teammates uncover their strengths and expose them to situations where they are used more often.

The workshop presented in this paper teaches leaders through conversation how to uncover their individuals strengths as well as those on the team. Each leader will be asked to reflect for 5 minutes on a clear memory of excellence that made them feel strong (e.g., high

performance, flow) and then share that story with their small group. Participants listening to the story will wait to the end to ask clarifying or curious questions about the experience.

Collectively, the recipe for individual growth is discovered. This is an energizing conversation.

Both the presenter and listener are hooked into the compelling narrative that outlines each person's inner genius.

Positive vs Negative Coaching

Alternatively, neuroscientist have found that our brains turn on the sympathetic nervous system—the “flight or fight” mode—as a result of receiving negative coaching that focuses on what needs fixing (Boyatzis, 2011). Positive coaching is consciously paying attention to what works and bringing it to the attention of others. This behavior fuels the parasympathetic nervous system and encourages neurogenesis (Boyatzis, 2011). As described earlier, sharing powerful moments that involve strengths in action yield positive emotions between individuals (e.g. interest, inspiration, joy). This priming improves cognitive functioning, working memory, increases creativity, and broadens the potential actions one might take (Fredrickson, 2013). This information about an individuals strengths is then cataloged for future utility. By contrast, negative emotions create stress that narrows thought-action repertoires to immediate choices and readies the body for previous or “non-novel” actions (Fredrickson, 2013).

Going beyond the way our brains are wired to learn, consider the following: Which interaction are you more interested in having? In the negative coaching scenario, the subject is told exactly what *not* to do in accordance with a standard formula and/or another person unique version of the pathway to success. In the positive coaching scenario, the observer (e.g. a peer, leader, friend) notices your unique body, mind, and ability and explores how you might use that in pursuit of the goal.

Tom Landry, a legendary football coach for the Dallas Cowboys, understood the distinction between feedback (negative coaching) and attention (positive coaching). He turned around a struggling Dallas Cowboys football team by showing each player a highlight clip where they did something great for the team intuitively, perfectly, and effectively (Buckingham & Goodall, 2019). Instead of memorizing all the ways any play could go wrong—an exhaustive list for sure—Landry helped each player learn and grow by studying exactly what was happened before, during, and after things when right. To wit, helping others achieve in the area they can grow the most is about exploring their strengths and abilities, not the way someone thinks they should be or act (notice here another “should” imperative belief that is linked to previously discussed cognitive biases).

These findings do not suggest leaders should not provide any clear and direct feedback about what not to do. In some situations, it is imperative that a leader do so to mitigate or stop harm. If an employee is acting in ways that are illegal or immoral, the leader has a duty is to respond and correct the situation. Laws and well-researched processes are designed to make work safe and efficient. The call to use one’s strengths more often does not provide licensure to overlook or dismiss such elements of a job. However, in a previous section we reviewed the nature of what makes a complex environment unpredictable and random (many compounding variables interacting concurrently very quickly). This means we often work and make decisions in gray areas. Supporting the development of a strengths-based leadership approach is also the fact that in complex environments there are ways to reach a desired end goal (equifinality). In short, leaders can focus more on how unique individuals consistently produce desired outcomes rather than dehumanizing processes. Moreover, because more jobs and work tasks operate in

complex environments, there is less return on investment for leaders to intensely manage tasks happening on their team and telling others what to do (Schein, 2013).

Uncovering and Coalescing Collective Ability, Building Energy and Momentum

The workshop outlined above will help leaders uncover their strengths through reflection on moments that felt invigorating, interesting, and effortless as well as yielded a positive outcome. Reflecting on these moments at the beginning or end of a team meeting comes at little cost in time but can yield high return. Sharing these stories with one another (or with their team) generates positive emotion that broadens perspective about each person. Harvesting this additional information about “the self” at it’s best (or others at their best) is valuable resource that can be stored away for future utility. Then, as random events and uncertainty occur within the work stream, the group can collectively orchestrate tasks that align with the unique strengths across the team. While it is not the case that each piece of the puzzle will fall perfectly in place with the strengths of the team, each piece that does yields potential for energy generation as opposed to depletion. This collective effort to understand where each person can be exposed for optimal upside productivity and growth is the hard work that is worth the time and focus of leaders. The workshop will teach leaders to reframe randomness and uncertainty that may deflate one team member, as positive energy potential that other teammates can use to charge-up and self-direct action that is fulfilling and leads to differentiated outcomes.

Lastly, the workshop will employ the use of metaphor and analogy to show leaders how energy transfer in various examples outside of typical work contexts can mirror optimal resource allocation in work and daily life. To summarize thus far, this workshop is designed to leverage randomness and unforeseen events *toward* your strengths (where there is significant upside for productivity, creativity, and wellness) and away from your weaknesses (where randomness is

draining). Buckingham & Goodall (2019) use a tennis axiom that will be further developed below and in other sections to simplify and relate what we know the best leaders do to use their strengths. In tennis, many coaches advise their players to *run around the backhand*. For most amateurs and professionals, the backhand groundstroke is not a preferred shot. To compete at the highest levels, you need a solid and consistent backhand stroke to win matches. But most professionals have less variety and spin with this stroke, as it is a more complex movement to complete than the forehand groundstroke. The best tennis players in the world have exceptional awareness of where they are most competitive and seek to position themselves there as often as possible. Sometimes this requires more effort (than settling for the backhand), but by interpreting the random shot choice from your opponent as an opportunity to use a strength, one player gains the advantage. Likewise, when we experience uncertainty at work, we can consider various pathways—all the ways to run around the backhand—to leverage our strengths and bring the significant upside benefit of random events in our favor.

With this broadened perspective about individual and collective strengths, random tasks and potential stressors in the workstream can be reframed as inherent energy forces that charge individual and collective batteries. Armed with this possibility, leaders will complete the workshop by contrasting hopes and business outcomes with known strengths to build a plan for execution.

A Framework for Uncertainty at Work

The second half of the workshop is designed to help leaders learn how to connect desired outcomes (wishes) with potential obstacles and plans for navigating those challenges that reflect unique human strengths. By considering potential obstacles, and reframing them as tasks that can potentially strengthen individuals on the team, leaders not only increase the odds of achieving

about the future but design work experiences that are energy giving instead of energy draining. This work of capitalizing on randomness, stress, and uncertainty revolves around the strength zone of an individual or the team. This zone can be thought of as a collection of previously discussed strengths (e.g., asking questions, analyzing, summarizing) or VIA Signature Strengths (e.g., curiosity, perspective) that represent the unique way individuals offer optimal contribution.

Prospection

In saying leaders can learn to organize their own strengths, and those on the team, to benefit from positive upside events may seem a bit like fortune-telling. Research supporting this part of the workshop design comes from recent findings about how mental processes both conscious and unconscious are always running future simulations. Seligman, Railton, Baumeister, & Sripada (2013) provide initial evidence of this future focused processing in their paper regarding prosppection. Prosppection is a way of thinking about the future that contrasts current views on how people move forward (e.g., people act based on prior experiences)(Seligman et al., 2013). Unlike models where future choice is driven by the past, where habits and prior knowledge inform our choices, prosppection is nimble navigation into the future via simulation. Seligman et.al (2013), describe four basic modes of prosppecting: navigational (literally how to get to the nearest post-office from your current location), social (how we think about interacting with others in a particular environment, and how their reactions to questions or events in that environment will in turn impact our experience in that scenario), intellectual (taking in new material like this paper by noticing holes in the argument, applying its concepts in your own life, or how you might reframe part of the discussion to share it with a colleague), and memorial (counterfactual thinking about how you might have changed the outcome of a conversation or experience).

Prospection is not fortune-telling or prediction. It is the cognitive ability to model future scenarios in the present moment to gather information, distribute energy (physical or mental resources), consider options, and choose an action. Seligman et. al. (2013), provided a few methods and skills for increasing effective prospection: disconfirming unrealistic prospection (analogous to previous research regarding thinking traps), incentivizing the future (clarifying wishes/hopes), and building meaning and purpose. The ability to prospect accurately is essential in determining resource allocation and managing risk-reward strategies.

Mental Contrasting and Implementation Intentions

In the second half of the second workshop, leaders take the aspirational concept of using one's strengths at work and put it into a realistic framework of everyday life. In the research literature, the framework is referred to as Mental Contrasting with Implementation Intentions (MCII)(Oettingen, 2000; Oettingen, 2012). Outside of formal research, Oettingen has reframed this process as "W.O.O.P.", which stands for: Wish, Outcome, Obstacle, and Plan (Oettingen, 2014). The author of this paper will use this initial framework, which has been researched with positive outcomes inside and outside of the laboratory, and then iterate on it in ways that integrate strengths as well as antifragility.

When using this intervention, workshop participants will identify a specific wish they have for the future that is meaningful, challenging, and feasible (e.g., learn to code unstructured text before August). Next, the participant identifies the outcome—the individual value-add or nourishment that would result from the best version of their wish coming true (e.g., confidence in designing and analyzing research about COVID-19). Then, with both wish and outcome as clearly articulated as possible in a short phrase or sentence, the participant considers what might inhibit that scenario (e.g., desire to help others more than self, lack of attention span). In

describing an obstacle, participants are asked to think broadly (e.g. personal behaviors, emotions) but also deeply (e.g., what inner barrier is strongest/most common that might limit your progress?). Lastly, the participant is asked to consider a plan that might be used to overcome the obstacle (e.g., create a visual of helping others through research that can be referenced in times of distraction). When and if the obstacle is met along the winding path toward a goal, the subject may choose to employ the plan previously considered or a slight variation. In either scenario, the participant is more prepared to self-regulate in pursuit of future goals.

Studying individuals who actually achieved their intended goal, researchers identified the powerful synergy between self-regulation and mental contrasting strategies of goal pursuit (Oettingen, 2012). This process represents a higher or more complex consciousness that manages numerous variables within a desired future *and* the present or likely circumstances in the way of that goal. It has been reliably tested with positive results in many scenarios involving self-regulation toward personal and interpersonal goals: physical exercise & weight-loss (Marquardt et al., 2017), mutually beneficial bargaining (Kirk, Oettingen, & Gollwitzer, 2013), academic performance (Duckworth, Kirby, Gollwitzer, & Oettingen, 2013). MCII has been tested successfully to help study participants with mild depression, which by definition suggests difficulty beginning and sustaining goal-directed behavior (Fritzsche, Schlier, Oettingen, & Lincoln, 2016). MCII also helps individuals bounce back and better utilize negative feedback (Kappes, Singmann, & Oettingen, 2012). For this reason, MCII may be especially useful at work given how often obstacles are encountered when pursuing challenging goals and in light of limited resources in the COVID-era. Moreover, MCII has also been shown to increase the availability of energy (Sevincer, Busatta & Oettingen, 2013). In navigating uncertainty, many organizations are asking leaders and individuals to work longer hours to keep up with the

changes or to simply “do more with less.” Thus, the idea of creating additional energy from completing tasks through the MCII framework represents significant value for individuals, leaders, and companies.

Sevincer et al. (2013) found that successful mental contrasting of completing one task activates the physiological transfer of energy (energization) necessary to fuel the performance of unrelated tasks. In their experiments, successful mental contrasting with implementation intentions led to increased power using a grip strength measurement (controlling for differences). This empirical research suggests that by moving toward a particular goal using the MCII framework, one can generate additional capacity and motivation that was previously unavailable. Importantly, in this research, participants were given general instruction (“What one action can you take to overcome this obstacle?”) about how to create a useful plan to combat obstacles (Sevincer et al., 2013).

This workshop furthers the WOOP framework by integrating what is best about mental contrasting with the significant benefits of using human strengths at work. In adding to this framework the author is renaming the process to Hope, Outcome, Obstacle, Plan, Strengths (HOOPS). Conveniently, this new acronym reframes the commonly used phrase “jumping through hoops”—which colloquially infers monotony, agony, and annoyance in some process—to create a process worth pursuing and which is live and energy giving. Using prospection, leaders (or any workshop participant) will consider a plan that specifically employs their strengths if and when an obstacle appears. In combating obstacles with strengths, there may be even stronger “energization” transfer from strengths-based activities aligned with the specific wish which can be directed toward other related or unrelated activities. In more general terms, this process of energization can be thought of as the zest we have after an invigorating morning

run that manifests as focus or stamina at work. Or, the additional energy, patience, and presence we have to offer loved ones after a particularly good day at work that included using our strengths to overcome uncertain situations. This research also adds credence to aforementioned conceptualization of flow (i.e., effortless effort) and strengths (i.e., activities that make one feel strong).

The WOOP framework does not specifically reference outcomes of positive psychology such as hope, but the process of mental contrasting is similar to the science and understanding of how hope creates a pathway toward desired outcomes. The inclusion of this framework in the workshop is to bring clarity and balance between perceived obstacles (e.g., stressors, shocks, uncertainty) and the unique strengths we have to leverage future opportunities. A review of hope research, and its benefits for leading in uncertainty, will conclude the rational and expected value creation for this workshop.

Hope: Pathways and Positive Upside

Hope has been described in many ways and until very recently there was no unifying theory (Tomasulo, 2020). Snyder (2002) defined hope as “the perceived capability to derive pathways to desired goals, and motivate oneself via agency thinking to use those path”. This definition emphasizes hope as a cognitive process and incorporates much of what is good about mental contrasting and the utilization of strengths in action. The language Snyder uses in building out a theory of hope helps clarify the design of the complementary workshops presented in this discussion.

First, Snyder (2002) saw goals as the human “targets of mental action sequences”. The ability to broaden potential actions connects with aforementioned research on positive emotion which acts as a lever increase thought-action repertoires. Next, Snyder provided evidence that

high-hope individuals are not only specific and confident when considering pathways forward toward a goal, but actually effective in creating alternative routes, especially when circumstances are impeded. In short, high-hope individuals are not naïve. They expect randomness and organize future thoughts with this in mind to better prepare themselves in the present (Snyder, 2002). Lastly, “perceived capability” is used to derive pathways. Not only are character strengths, or activities that make us feel strong, where we are most capability and energy to grow (Kirschenbaum, Ordman, Tomarken, & Holtzbauer, 1982), but also how we can accurately assess the feasibility of pathways. Put simply, an individual may know they have some set of strengths, and manifest a unique pathway that leverages those abilities and exposes them to positive upside throughout the experience. Snyder (2002) captures this notion of “leveraging your strengths” by citing how high-hope individuals often *inject uncertainty* into scenario’s that might seem certain. For instance, research from the 1970’s and 1980’s found that some basketball players did not hope simply to put the ball in the hoop, but to complete the goal by employing their own flair and uniqueness (Jones, 1973; Snyder & Fromkin, 1980). These observations are consistent with the authors anecdotal observations leading hundreds of team development workshops where individuals describing various methods for writing code or presenting sales presentations or demos do so in infinitely unique ways that align to their strengths yet produce similarly desired outcomes.

Agency thought is the perceived capacity to use imagined pathways to arrive at a desired goal (Snyder, 2002). Importantly, Snyder described this concept as “mental energy to begin and continue using a pathway through all stages of goal pursuit”. Where does mental energy come from? As previously cited in this paper there is significant upside—even energy *gains* as opposed to energy depletion—by organizing consciousness to complete tasks in a way that

employs mental contrasting with implementation intentions (energization), effortless effort (flow), and/or the utilization of our strengths, in uncertain and evolving situations at work.

Thus, the act of thinking about a specific pathway(s) where one might use their strengths may elicit positive emotions that broaden perspective routes or necessary resources for motivation and action to begin. Putting these observation back into the complex world of human and natural interaction, agency thinking and pathway thinking are concurrent processes that evolve rapidly as we move toward a goal and receive new feedback. Once energy is directed toward goal-oriented action there is a feedback loop between emotions and future action (Snyder, 2002). For this reason, the first workshop focuses on seeing the world more objectively and limiting distortions that negatively impact our emotions and action and prematurely stifle goal pursuit.

In the Elaborated Hope Model, a “stressor” sits between the interactions of pathway thoughts and agency thoughts and goal attainment (Snyder, 2002). For low-hope individuals the stressor represents a significant barrier to hopeful thought and/or derailment. However, for the high-hope individual this stressor is seen as a challenge (Snyder, 2002). This shift in perspective aligns with previous discussions about reorganizing consciousness of an event to achieve flow. Namely a balance between skill and challenge (Csikszentmihalyi, 1990). If an individual pursues the goal by actually employing his/her strengths (or VIA Signature Strengths) they may *receive energy and creativity from the problem, randomness, and uncertainty*. It is also possible that in using our strengths we have more available energy/capacity when new problems or opportunities arise. If the initial approach is unsuccessful, there may be momentary negative emotions and feedback, but a high-hope individual will remember previous pathways or design new pathways

with the updated information (Snyder, 2002). In describing this process, Snyder (2002) suggests much of what has been describe in the practice of antifragility:

Because of varying levels in hopeful thought, however, differing *robustness* should emerge in pathways and agentic thought. The full high-hope person (i.e., high pathways and high agency) will have iterative pathway and agentic thought that is fluid and fast throughout the goal pursuit sequence; conversely, the full low-hope person (i.e., low pathways and low agency) will have iterative pathway and agentic thought that is halting and slow (if at all operative) in the goal sequence. (p. 252)

Laboratory studies have found low-hope individuals start with a negative emotional valence about the future and may quickly oscillate between worry about the future and destructive self-talk (e.g., This isn't working because I'm not smart enough)(Snyder, 2002). Similarly, like pessimists, when low-as compared to high-hope individuals experience a stress (randomness) that blocks success they struggle and ruminate in fantasy-like escapism. Emotions (as a form of feedback throughout the aforementioned hope model) inform goal-directed thinking (Snyder, 2002). For this reason, the author here has designed interventions that first consider how to avoid limiting beliefs that impact our thoughts and emotions in negative ways. This is a via-negativa mindset of value creation by identifying thoughts can be taken away to limit negative risk (e.g. fear, judgement) and increase exposure to scenarios with possible upside gain (i.e. fortuitous chances to use our strengths that yields increased flexibility, growth, speed, productivity). Snyder's (2002) closing words captured his highest hope for future research: "The road that enables people to attain such optimal functioning would be paved with a new

premise—that education and business should assign people to activities that match their strengths rather than trying to fix their weaknesses” (p. 269)

Limitations

The workshops discussed in this paper, and their ability to create value for organizations, requires a baseline level of safety and trust between the leader and the team. A global report by the ADP Research Institute found that the level of trust between a leader and team was the strongest explainer of overall engagement (Hayes, Chumney, Wright & Buckingham, 2019). Discussing strengths (and weaknesses) in the company of others requires a shared level of respect for one another and psychological safety to use that information in helpful, non-abusive, contexts. Similarly, leaders and teams who participate in the workshops outlined here should have shared work, or goals, that would benefit from uncovering limiting beliefs and increase the usage of strengths at work. Individuals in large organizations may be part of one team but mostly interact with another matrixed team (e.g., project teams). Leaders and teams will get the most benefit from this workshop if they have some shared experience or interdependencies of a future goal.

The skills learned in the aforementioned workshop are not designed to be used in every situation. In the best case scenario, new people leaders (those who have not previously held formal authority in an organization) will learn to identify and objectively question limiting beliefs as well as uncover individual and team strengths as a preventative practice. Teams or leaders dealing with significant interpersonal conflict should not expect these skills to help resolve those situations. As previously discussed, a leader may need to step in and provide direct feedback about a subordinate’s actions to maintain adherence to a company code of conduct or

societal norms. These workshops acknowledge the utility (in some scenarios) for holding firm beliefs and/or providing direct feedback to justify poor or inaccurate behavior.

A full summary of antifragile is beyond the scope of this paper. While there are many additional connections between the antifragile and positive psychology, the focus of this paper has been on removing harmful elements of the human experience (via negativa without naïve interventionism) and increasing the possibility of bringing forth what is best in people (increasing exposure to nonlinear upside value in strengths utilization). Finding ways to use one's strengths at work does not assume one could or should use their strengths all of the time. There are parts of jobs, just as in life, that are difficult and require deliberate and agonizing effort that does not flow effortlessly. However, leaders play a key role in organizing some tasks and environments such that individuals are more frequently gaining from uncertainty and stress of work. These tasks fall into the strength zone, produce energy, and increase well-being (Gallup Press, 2017). The latest global engagement data suggests only 32% individuals strongly agree that they love what they do each day (Gallup Press, 2017).

Taleb (2012) points out two key characteristics from the nature world that are necessary for the antifragile to grow: 1) the system or individual must engage with small and consistent stressors (via randomness and uncertainty), and 2) the system or individual must have enough time to recovery from the stressor. The inverse of these two ingredients represent what can break the antifragile. Stressors and uncertainty that overwhelm the system or individual do not allow enough time for recovery, or recovery at all, and lead to disintegration.

What Value is there for Leaders and Teams?

With an antifragile mindset, leaders can leverage uncertainty in positive ways for themselves and their teams. The workshop outlined above provides a framework for how leaders might take this into their organizations. First, leaders must learn to spot and inquire about extreme language that represents thinking traps that narrow perspective and increase confirmation bias. In the second workshop leaders learn how to uncover the strengths on their team. With this information, they can use their available resources more efficiently by creating exposure to the upside benefits of using strengths at work. To help leaders understand the potential value of this framework, we turn to the financial industry and economics. Principles of antifragility are being used in venture capital organizations to minimize downside risk of investments while maximizing exposure to possible upside events (e.g., the startup product is a commercial success).

Imagine Person A has \$50,000 to invest in the stock market. Among various strategies a “passive, risk avoidant” approach is selected. The investment strategy includes a portfolio of diverse assets (think, equities inside mutual funds), and is somewhat protected from unexpected negative events. For example, a major downturn in oil prices won’t drastically impact the overall portfolio as only a small amount of those shares are held. The same is true for significantly positive events, if the price of oil skyrockets, the portfolio will only have modest gains. Investors often ascribe to the notion that a diversified portfolio is a robust (optimal) portfolio for this reason. The strategy of investing into a stock early and holding it over many years, even decades, has worked exceptionally well for Warren Buffet over his lifetime (Gates, 1996). The keyword in that strategy is “lifetime”. Buffet’s investment strategy involves sourcing low-priced high upside investments that can yield profit over many years. Overall, it is a fine investment strategy.

However, it is not especially efficient. In many cases it takes a decade to see the return on an investment. There are other investment strategies that do not spread resources thinly across a portfolio to combat randomness or insulate against shocks in the market. This strategy embraces the nonlinear impact of risk and reward.

Imagine Person B also has \$50,000 to invest in the market. Person B takes \$7,500 (which is 16% of the original investment), and invests this resource in highly speculative ways with exposure to exponential upside gains (e.g., such as the promise of many startup companies). In this environment the \$7,500 is allocated into specific areas where there may be significant, nonlinear (exponential), gains in resources if one of the startup companies is a commercial success, or, for instance, can quickly transition to a high demand in the market (e.g., hand-sanitizer). While Person B seems to be encountering a significant risk in this strategy, the other 84% of the portfolio is safely held in low-risk holding cash or another (relatively) stable holding such as U.S. government obligations (e.g., treasury bills)—which remain equal to the original value or gain value during market downturn. In this second scenario, there may be a higher risk for depletion of resources due to the highly speculative nature of the investment (i.e., many startups fail). However, the maximum downside risk for Person B is only 16% (\$7,500) of the total resource (\$50,000). Should none of the risks pay off initially, there is a healthy majority of funds still available. However, if Person A invests a large sum, say the entire \$50,000, in a “minimize risk / risk avoidant” portfolio, and then an extremely rare event occurs, such as the financial crisis of 2008-2009, then the total value of the portfolio is significantly reduced. As a result, the investor now has much less to invest when trying to make up for those losses and it will take longer to move back toward the break-even point of \$50,000 as the gains and losses are incremental. The “antifragile” investment approach is actively practicing optimal risk taking in

areas where it has some advantage (e.g., knowledge, skill, experience). The risk mitigation strategy is sub-optimizes the resources it has and exposes the investment to potentially significant downside events.

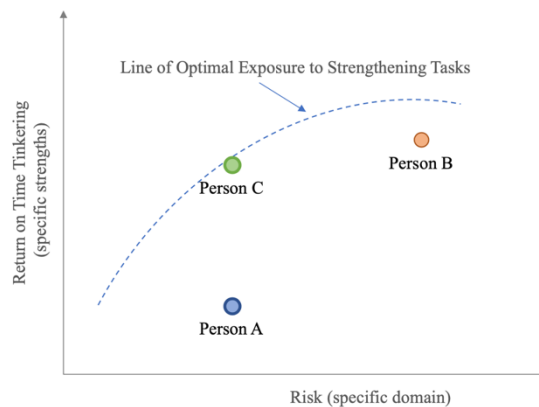
What does this example tell us about leading in uncertainty? First, we must exchange the black and white resource of dollars for the psychological and human capital of individuals on a team. In the psychological vernacular, the first scenario—safely investing \$50,000 for many years and outsourcing risk across a mix of assets—is synonymous with an individual addressing his/her weaknesses and ignoring the exponential value of human strengths. The rationale for this risk avoidant strategy is the need for abundant safety and a stable paycheck from a stable (read, large and complex) company. In psychological terms, the second investment strategy is antifragile much like the workshops outlined in this paper—increased consciousness to actively tinkering with one's resources (optionality in one's strength zone) in speculative ways to orient quickly and capitalize on positive upside events. A positive upside event would be the experience of work tasks week to week aligning with one's unique strengths. Individuals that are exposed to these upside situations each week are using their individual time, talent, and energy optimally to contribute to the team and drive value for the organization. The HOOPS framework can be used as a process for clarifying potential risks (obstacles) and means of leveraging strengths to mitigate potential harm while also optimizing potential value-add.

Moreover, unlike in the financial example—where startups fail often, and the nature of the investment is speculative—leaders who allow their team to tinker with their strengths during the week are not investing in speculative assets. Research within positive psychology presented here, and numerous other global studies, have shown that strengths *aren't* speculative risks when applied with practical wisdom toward shared business goals. The research regarding the value

that individuals can provide in using their strengths a work is robust. By augmenting the WOOP framework to include prospecting about mitigating weaknesses and using strengths (HOOPS model), leaders can help their teams design optimal experiences of (work) tasks. Moreover, with time and talent as finite resources, it makes practical sense to use them as much as possible in ones favor. In any job, as in any life, there is some amount of risk that is required. And there will surely be mistakes made in balancing risk and ability. However, some mistakes are better than others. By tinkering with our strengths, and making errors along the way, leaders help individuals make the “right mistakes”. These are intrinsically rewarding experiences that sharpen our senses and hasten our pursuit of development. As a member of one team, and leader of their own, a team leader will benefit by practicing this concept in their own work, but also help the collective by encouraging team members to share their strengths with one another. Increasing collective consciousness about where others have optimal upside (strengths) can help optimize everyone’s resources on the team (e.g., time, effort). Figure 3 provides additional context.

Figure 3

Tinkering with Strengths as Optimal Return on Investment in Uncertain Environments



- Person A** – Inefficient use of energy – Underestimating risk tolerance, overestimating need for safety (suboptimal use of time/strengths/resource)
ACTION: Leader encourages Person A to re-craft work tasks, a problem, or business opportunity to step into a strength that yields more return for the individual and team. This might also represent the inefficiency of time not spent tinkering with strengths (tinkering with weaknesses).
- Person B** – Inefficient use of energy – Overestimating (or oblivious to) risk tolerance, underestimating need safety (risk not worth potential return)
ACTION: Leader may encourage Person C to think about whether this risk falls within their strength zone, or represents a low-odds hope that might adversely impact the individual, team, or company. Leader may ask Person C to reframe the situation to more intelligently apply a strength and limit unnecessary exposure of risk for the individual, team, or company.
- Person C** – Optimal use of energy – Strengths are aligned with work tasks and deliver exceptional value, optimal exposure to upside of using strengths.
ACTION: Leader may recognize Person B for optimal application of strength in action (strength spotlighting) and encourage reflection to integrate learnings or think of additional use cases; Leader may also encourage sharing this experience with others to build healthy team norms

This perspective employs a higher consciousness about how to appropriately allocate one's strengths and weaknesses while tinkering towards higher levels of productivity and flourishing. In the financial world this active and robust investment strategy is called an efficient frontier portfolio, whereby assets are weighed against risk tolerance over time for an optimal risk-return ratio (Pavlou, Doumpos, & Zopounidis, 2019). In short, individuals and leaders sub-optimize what is possible by seeking the highest return for the lowest risk, instead of high return for proportional risk. In psychological terms this is tinkering with one's strengths in business relevant ways that involve an appropriate amount of risk and equal reward. Losses, or risks that manifest as failure, from tinkering with one's strengths are not desirable for business, but paradoxically they add value and provide more energy for future investment. Individuals learn faster, and bounce back, in those areas where there is intrinsic desire (Seligman, Ernst, Gillham, Reivich, & Linkins, 2009).

Conclusion: An Expansive and Hopeful View From Here

Leaders can help individuals understand how and where to allocate their resources (e.g., time, talent, strengths) for optimal return on their investment at work. In doing so, leaders help individuals and teams tinker with their strengths in areas where the risk, challenge, and uncertainty has a higher potential return on well-being. One major barrier to taking these risks are thinking traps and cognitive biases that limit knowledge and perspective about what is possible. The consequence of these cognitive distortions includes navigating the future timidly with fear, anxiety, and inaccuracies. These patterns of thinking lead individuals to overestimate the amount of safety necessary for success, and underestimate their capacity and capability to navigate risk using their strengths. The future brings with it many uncertainties. However, it is

uniquely human, and invigorating, to learn the nature of phenomenon that might otherwise be harmful (e.g., fire) and use it to prosper.

Appendix A

























Summary of Taleb's Key Writings about Antifragility

Book	Summary	Year Published
<i>Fooled by Randomness: The Hidden Role of Chance in Life and in the Markets</i>	Miscalculating causality, preference to see the world as explainable	2001
<i>The Black Swan</i>	The not insignificant effect of rare events/randomness, and tendency to find simple explanations for them	2007
<i>The Bed of Procrustes: Philosophical and Practical Aphorisms</i>	A comparison of classical values (e.g. courage, elegance, erudition) and contemporary values (e.g. intellect, stubbornness)	2010-2016
<i>Antifragile: Things That Gain from Disorder</i>	A response to black swan events, defining how and what benefits from randomness	2012
<i>Skin in the Game: Hidden Asymmetries in Daily Life</i>	How risk is useful in improving fairness, efficiency, understanding how the world works	2018

Appendix B: Character Strengths from VIA

Character strengths: Positive traits existing in degrees that are reflected in our thoughts, feelings, behaviors, and predispositions toward moral excellence. Researched and designed by 55 scientists over three years and applicable across the globe.

Workshop participants can take the online VIA-Character Strengths assessment, or more simply, review the table below to resonate and reflect on which ones are most intuitive.

 Appreciation Of Beauty & Excellence Transcendence	 Bravery Courage	 Creativity Wisdom	 Curiosity Wisdom
 Fairness Justice	 Forgiveness Temperance	 Gratitude Transcendence	 Honesty Courage
 Hope Transcendence	 Humility Temperance	 Humor Transcendence	 Judgment Wisdom
 Kindness Humanity	 Leadership Justice	 Love Humanity	 Love Of Learning Wisdom
 Perseverance Courage	 Perspective Wisdom	 Prudence Temperance	 Self-Regulation Temperance
 Social Intelligence Humanity	 Spirituality Transcendence	 Teamwork Justice	 Zest Courage

Niemiec, R. M. The 24 Character Strengths. Retrieved from <https://www.viacharacter.org/character-strengths>
 Peterson, C., & Seligman, M. E. P. (2004). *Character strengths and virtues: a handbook and classification*. Washington, DC: American Psychological Association.

References

- (2009, October 14). The Most Influential Business Thinkers. Forbes.com. Retrieved June 29 2020, from <https://www.forbes.com/2009/10/13/influential-business-thinkers-leadership-thought-leaders-guru.html#78cc7f0e4d62>
- Babovic, F., Babovic, V., & Mijic, A. (2018). Antifragility and the development of urban water infrastructure. *International Journal of Water Resources Development*, 34(4), 499-509. doi:<http://dx.doi.org.proxy.library.upenn.edu/10.1080/07900627.2017.1369866>
- Beck, A. T. (1964). Thinking and depression: II. theory and therapy. *Archives of General Psychiatry*, 10(6), 561-571. doi:10.1001/archpsyc.1964.01720240015003
- Beck, A. T., & Haigh, E. A. P. (2014). Advances in cognitive theory and therapy: The generic cognitive model. *Annual Review of Clinical Psychology*, 10(1), 1-24. doi:10.1146/annurev-clinpsy-032813-153734
- Boyatzis, R. E. (2011, January-February). Neuroscience and leadership: the promise of insights. *Ivey Business Journal Reprints*. Retrieved from https://link-gale-com.proxy.library.upenn.edu/apps/doc/A272518734/AONE?u=upenn_main&sid=AONE&xid=f9cbbf79
- Brooks, D. (2008, October 27). The Behavioral Revolution. *New York Times*. Retrieved from: https://www.nytimes.com/2008/10/28/opinion/28brooks.html?_r=0
- Cable, D. M., & Kay, V. S. (2012). Striving for self-verification during organizational entry. *The Academy of Management Journal*, 55(2), 360-380. Retrieved from <http://www.jstor.org.proxy.library.upenn.edu/stable/23412443>

- Csikszentmihalyi, M. (1990). *Flow : The psychology of optimal experience*. New York: Harper & Row.
- Danchin, A., Binder, P. M., & Noria, S. (2011). Antifragility and tinkering in biology (and in business) flexibility provides an efficient epigenetic way to manage risk. *Genes*, 2(4), 998-1016. doi:10.3390/genes2040998
- Diener, E., Thapa, S., & Tay, L. (2020). Positive emotions at work. *Annual Review of Organizational Psychology and Organizational Behavior*, 7(1), 451-477. doi:10.1146/annurev-orgpsych-012119-044908
- Duckworth, A. L., Kirby, T. A., Gollwitzer, A., & Oettingen, G. (2013). From fantasy to action: Mental contrasting with implementation intentions (MCII) improves academic performance in children. *Social Psychological and Personality Science*, 4(6), 745-753. doi:10.1177/1948550613476307
- Edmondson, A. C., & Lei, Z. (2014). Psychological Safety: The history, renaissance, and future of an interpersonal construct. *Rev. Organ. Psychol. Organ. Behav.*, 1(1), 23-43
- Ellis, A. (1958). *Rational psychotherapy*. Provincetown, Mass. : Journal Press. doi:10.1080/00221309.1958.9710170
- Fowler, R. D., Seligman, M. E. P., Koocher, G. P., & Seligman, M. E. P. (1999). *The APA 1998 annual report*. Washington : American Psychological Association. doi:10.1037/0003-066X.54.8.537
- Fredrickson, B. L. (1998). *What good are positive emotions?* Washington, D.C.] : Educational Pub Foundation. doi:10.1037/1089-2680.2.3.300

Fredrickson B. L. (2001). The role of positive emotions in positive psychology. The broaden-and-build theory of positive emotions. *The American psychologist*, *56*(3), 218–226.

<https://doi.org/10.1037//0003-066x.56.3.218>

Fredrickson, B. L. (2013). Positive emotions broaden and build. Elsevier Science & Technology, 1-53. <https://doi:10.1016/B978-0-12-407236-7.00001-2>

Fredrickson, B. L., & Branigan, C. (2005). Positive emotions broaden the scope of attention and thought-action repertoires. *Cognition and Emotion*, *19*(3), 313-332.

doi:10.1080/02699930441000238

Fredrickson, B. (2009). *Positivity*. New York: Crown Publishers.

Fredrickson, B. L., Mancuso, R. A., Branigan, C., & Tugade, M. M. (2000). The undoing effect of positive emotions. *Motivation and Emotion*, *24*(4), 237-258.

doi:<http://dx.doi.org.proxy.library.upenn.edu/10.1023/A:1010796329158>

Fredrickson, B. L., Tugade, M. M., Waugh, C. E., & Larkin, G. R. (2003). *What good are positive emotions in crises? A prospective study of resilience and emotions following the terrorist attacks on the united states on september 11th, 2001*. Washington, D.C.] : American Psychological Association.

Fritzsche, A., Schlier, B., Oettingen, G., & Lincoln, T. M. (2016). Mental contrasting with implementation intentions increases goal-attainment in individuals with mild to moderate depression. *Cognitive Therapy and Research*, *40*(4), 557-564. doi:10.1007/s10608-015-9749-6

- Fuente, J. d. I., Mañas, I., Franco, C., Cangas, A. J., & Soriano, E. (2018). Differential effect of level of self-regulation and mindfulness training on coping strategies used by university students. *International Journal of Environmental Research and Public Health*, *15*(10), 2230. doi:10.3390/ijerph15102230
- Gallup Press. (2017). *State of the Global Workplace*. Gallup, Inc..
<https://www.gallup.com/workplace/238079/state-global-workplace-2017.aspx>
- Gates, B. (1996, What I learned from warren buffett. *Harvard Business Review*, *74*, 148.
- Gates, R. M. (2014). *Duty: Memoirs of a secretary at war*. New York: Alfred A. Knopf.
- George, J. M., & Bettenhausen, K. (1990). Understanding prosocial behavior, sales performance, and turnover: A group-level analysis in a service context. *Journal of Applied Psychology*, *75*(6), 698-709. doi:10.1037/0021-9010.75.6.698
- Greenbaum, C. A., & Javdani, S. (2017). Expressive writing intervention promotes resilience among juvenile justice-involved youth. *Children and Youth Services Review*, *73*, 220-229. doi:https://doi-org.proxy.library.upenn.edu/10.1016/j.childyouth.2016.11.034
- Gresov, C., & Drazin, R. (1997). Equifinality: Functional equivalence in organization design. *The Academy of Management Review*, *22*(2), 403-428. doi:10.2307/259328
- Harzer C., Mubashar T., & Dubreuil P. (2017). Character strengths and strength-related person-job fit as predictors of work-related wellbeing, job performance, and workplace deviance. *Wirtschaftspsychologie*, *19*(3), 23-38.
- Hayes, M., Chumney, F., Wright, C., & Buckingham, M. (2019, June). *The Global Study of Engagement*. ADP Research Institute. <https://www.adp.com/>

[/media/adp/resourcehub/pdf/adpri/adpri0102_2018_engagement_study_technical_report_release-ready.pdf](#)

Hespanhol, L. (June 26, 2017). More than smart, beyond resilient. Paper presented at the 105-114. doi:10.1145/3083671.3083683 Retrieved

from <http://dl.acm.org.proxy.library.upenn.edu/citation.cfm?id=3083683>

Horowitz, D. (2018). *Happier? : The history of a cultural movement that aspired to transform america*. New York, NY: Oxford University Press.

Isen, A. M., Johnson, M. M. S., Mertz, E., & Robinson, G. F. (1985). The influence of positive affect on the unusualness of word associations. *Journal of Personality and Social Psychology*, 48(6), 1413-1426. doi:10.1037/0022-3514.48.6.1413

Jones, J. M. (1973). Racial differences in sports activities: A look at the self-paced versus reactive hypothesis. *Journal of Personality and Social Psychology*, 27, 86-9.

Kappes, A., Singmann, H., & Oettingen, G. (2012). *Mental contrasting instigates goal-pursuit by linking obstacles of reality with instrumental behavior*. Orlando, Fla. : Academic Press.

Kirk, D., Oettingen, G., & Gollwitzer, P. M. (2013). Promoting integrative bargaining: Mental contrasting with implementation intentions. *The International Journal of Conflict Management*, 24(2), 148-165. doi:10.1108/10444061311316771

Kirschenbaum, D. S., Ordman, A. M., Tomarken, A. J., & Holtzbauer, R. (1982). *Effects of differential self-monitoring and level of mastery on sports performance: Brain power bowling*. New York : Kluwer Academic/Plenum Publishers. doi:10.1007/BF01173581

- Lavy, S., & Littman-Ovadia, H. (2017). My better self: Using strengths at work and work productivity, organizational citizenship behavior, and satisfaction. *Journal of Career Development, 44*(2), 95-109. doi:10.1177/0894845316634056
- Levenson, R. W. (1994). Human emotions: a functional view. In *The nature of emotion: fundamental questions* (ed. P. Ekman & R. Davidson), pp. 123–126. New York: Oxford University Press.
- Leyland, A., Rowse, G., & Emerson, L. (2019). *Experimental effects of mindfulness inductions on self-regulation: Systematic review and meta-analysis*. Washington, D.C.] : American Psychological Association. doi:10.1037/emo0000425
- Lukianoff, G., & Haidt, J. (2018). *The coddling of the american mind : How good intentions and bad ideas are setting up a generation for failure*. New York: Penguin Press. Retrieved from <http://hdl.library.upenn.edu.proxy.library.upenn.edu/1017.12/366263>
- Marquardt, M. K., Oettingen, G., Gollwitzer, P. M., Sheeran, P., & Liepert, J. (2017). Mental contrasting with implementation intentions (MCII) improves physical activity and weight loss among stroke survivors over one year. *Rehabilitation Psychology, 62*(4), 580-590. doi:10.1037/rep0000104
- Mattson, M. P. (2008). *Hormesis defined*. Amsterdam] ;: Elsevier Science. doi:10.1016/j.arr.2007.08.007
- McChrystal, S. A., Collins, T., Silverman, D., & Fussell, C. (2015). *Team of teams: New rules of engagement for a complex world*. New York, NY: Portfolio/Penguin.

- McGonigal, K. (2016). *The Upside of stress: Why stress is good for you, and how to get good at it*. New York, NY: Avery.
- Melchert, N. (2002). *The great conversation: A historical introduction to philosophy*, (4th ed., pp. 186-194). Boston, MA: McGraw-Hill.
- Michie, S., & Gooty, J. (2005). Values, emotions, and authenticity: Will the real leader please stand up? *The Leadership Quarterly*, *16*(3), 441-457. doi:10.1016/j.leaqua.2005.03.006
- Newman, K. (2020, April 23). Sanitizer May Be Selling Out, But These Distilleries Are Here to Help. Retrieved July 27, 2020, from <https://www.winemag.com/2020/03/13/gin-hand-sanitizer-coronavirus/>
- Nickerson, R. S. (1998). Confirmation bias: A ubiquitous phenomenon in many guises. *Review of General Psychology*, *2*(2), 175-220. doi:10.1037/1089-2680.2.2.175
- Nohria, N., & Beer, M. (2000, May 1). Cracking the Code of Change. Retrieved July 27, 2020, from <https://hbr.org/2000/05/cracking-the-code-of-change>
- Oettingen, G. (2000). Expectancy Effects on Behavior Depend on Self-Regulatory Thought. *Social Cognition*, *18*(2), 101-129. doi:10.1521/soco.2000.18.2.101
- Oettingen, G. (2012). *Future thought and behaviour change* doi:10.1080/10463283.2011.643698
- Oettingen, G. (2014). *Rethinking positive thinking : Inside the new science of motivation*. New York: Current.

- Oettingen, G., Kappes, H. B., Guttentag, K. B., & Gollwitzer, P. M. (2015). Self-regulation of time management: Mental contrasting with implementation intentions. *European Journal of Social Psychology, 45*(2), 218-229. doi:10.1002/ejsp.2090
- Pavlou, A., Doumpos, M., & Zopounidis, C. (2019). The robustness of portfolio efficient frontiers: A comparative analysis of bi-objective and multi-objective approaches. *Management Decision, 57*(2), 300-313. doi:10.1108/MD-02-2018-0129
- Peterson, C. (2004). *Character strengths and virtues: A handbook and classification*. Washington, DC : American Psychological Association.
- Peterson, C. (2006). *A primer in positive psychology*. New York, NY: Oxford University Press.
- Peterson, C., & Seligman, M. E. P. (2004). *Character strengths and virtues: a handbook and classification*. Washington, DC: American Psychological Association.
- Prilleltensky, I. (2016). *The laughing guide to well-being using humor and science to become happier and healthier /*. Lanham, Maryland : Rowman & Littlefield.
- Ramezani, J., & Camarinha-Matos, L. M. (2019). Novel Approaches to Handle Disruptions in Business Ecosystems. *IFIP Advances in Information and Communication Technology Technological Innovation for Industry and Service Systems, 43-57*. doi:10.1007/978-3-030-17771-3_4
- Reivich, K. J. & Saltzberg, J. (2020). *Positive psychology and individuals: MAPP 708 spring 2020 Sunday Jan 12* [PDF document]. Retrieved from University of Pennsylvania Canvas Site: https://canvas.upenn.edu/courses/1487084/pages/on-site-materials?module_item_id=16937362

- Reivich, K. & Shatte, A. (2002). *The resilience factor: 7 Essential skills for overcoming life's inevitable obstacles*. New York, NY: Broadway Books.
- Roepke, A. M. (2015). *Psychosocial interventions and posttraumatic growth: A meta-analysis*. Washington, DC : American Psychological Association. doi:10.1037/a0036872
- Roese, N. J., & Vohs, K. D. (2012). Hindsight bias. *Perspectives on Psychological Science*, 7(5), 411-426. doi:10.1177/1745691612454303
- Rozin, P., & Royzman, E. B. (2001). *Negativity bias, negativity dominance, and contagion*. Mahwah, NJ] : L Erlbaum Associates. doi:10.1207/S15327957PSPR0504_2
- Schein, E. H. (2013). *Humble inquiry the gentle art of asking instead of telling /*. San Francisco : Berrett-Koehler Publishers.
- Schwenk, C. R. (1990). Conflict in organizational decision making: An exploratory study of its effects in for-profit and not-for-profit organizations. *Management Science*, 36(4), 436-448. Retrieved from <http://www.jstor.org.proxy.library.upenn.edu/stable/2632008>
- Seligman, M. E. P., Ernst, R. M., Gillham, J., Reivich, K., & Linkins, M. (2009). Positive education: Positive psychology and classroom interventions. *Oxford Review of Education*, 35(3), 293-311. doi:10.1080/03054980902934563
- Seligman, M. E. P., Railton, P., Baumeister, R. F., & Sripada, C. (2013). Navigating into the future or driven by the past. *Perspectives on Psychological Science*, 8(2), 119-141. Retrieved from <http://www.jstor.org.proxy.library.upenn.edu/stable/44281864>

- Snyder, C. R. (2002). Hope theory: Rainbows in the mind. *Psychological Inquiry, 13*(4), 249-275. Retrieved from <http://www.jstor.org.proxy.library.upenn.edu/stable/1448867>
- Snyder, C. R., & Fromkin, H. (1980). *Uniqueness: The human pursuit of difference*. New York: Plenum.
- Sharpe, V. A., & Faden, A. I. (2001). *Medical harm: Historical, conceptual and ethical dimensions of iatrogenic illness*. Cambridge, MA: Cambridge University Press.
- Stewart, W. F., Ricci, J. A., Chee, E., Hahn, S. R., & Morganstein, D. (2003). Cost of lost productive work time among US workers with depression. *JAMA : The Journal of the American Medical Association, 289*(23), 3135-3144. doi:10.1001/jama.289.23.3135
- Taleb, N. (2012). *Antifragile : Things that gain from disorder*. New York: Random House.
- Taleb, N. (2018). *Skin in the game : Hidden asymmetries in daily life* (First ed.). New York: Random House.
- Tomasulo, D. J. (2020). *Learned hopefulness: The power of positivity to overcome depression*. Oakland, CA: New Harbinger Publications.
- Tozman, T., Zhang, Y. Y., & Vollmeyer, R. (2017). Inverted U-shaped function between flow and cortisol release during chess play. *Journal of Happiness Studies, 18*(1), 247-268. doi:<http://dx.doi.org.proxy.library.upenn.edu/10.1007/s10902-016-9726-0>
- Travagin, G., Margola, D., & Revenson, T. A. (2015). How effective are expressive writing interventions for adolescents? A meta-analytic review. *Clinical Psychology Review, 36*, 42-55. doi:<https://doi-org.proxy.library.upenn.edu/10.1016/j.cpr.2015.01.003>

Wagner, R., & Harter, J. K. (2006). *12: The elements of great managing*. Washington, D.C.: Gallup Press.

Zeitlin, D. (2020, June 22). Courage Through History. Retrieved July 07, 2020, from <https://thepenngazette.com/courage-through-history/>

Zhuang, Y., Feng, W., & Liao, Y. (2017). Want more? learn less: Motivation affects adolescents learning from negative feedback. *Frontiers in Psychology*, Retrieved from https://link-gale-com.proxy.library.upenn.edu/apps/doc/A479116519/AONE?u=upenn_main&sid=AONE&xid=d05a5c7f