



Penn Resilience and Well-Being Programs Executive Summary

University of Pennsylvania

Positive Psychology Center

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The purpose of this document is to provide a brief overview of the Penn Resilience and Well-Being Programs and Penn's training services.

These strengths-based prevention programs have been demonstrated to build resilience and well-being by equipping individuals with practical skills to bounce back from adversity and grow and thrive in their professional and personal life.

- **Expertise.** The Penn Positive Psychology Center is widely recognized as a leading organization for state-of-the-art, evidence-based resilience, well-being, and positive psychology programs. Penn has a team of curriculum developers, instructors, and subject matter experts with the expertise and experience to customize and deliver the programs. All Penn instructors have a Ph.D. or Master's degree in psychology or related fields. Penn's highly trained team delivers programs anywhere around the world.
- **Evidence-Based.** The Penn Resilience and Well-Being Programs are based on decades of empirical research. Our programs have demonstrated effectiveness in preventing and reducing anxiety and depression, and improving well-being and optimism.
- **Track Record.** Since 1990, about one million people around the world have attended these programs. Penn has worked with individuals, teams, and leadership from a variety of organizations, including the military, corporations, medical schools, law enforcement, first responders, government, primary and secondary schools, and colleges and universities. Our clients include the U.S. Army, University of Texas System, Yale School of Medicine, Deloitte, Kimberly-Clark, Delta Galil, a professional sports team, U.S. Department of Defense, the International Association of Chiefs of Police, and the World Bank, among others.
- **Customized.** Penn customizes the services to fit the needs, goals, and culture of your organization, via meetings, anonymous online surveys, and focus groups.
- **Sustainable Change.** Penn's train-the-trainer model is scalable to enable large-scale dissemination and sustainable culture change. We effectively train individuals who do not have a background in psychology and who have diverse educational and subject matter backgrounds. School teachers that we have trained have gone on to teach the resilience and well-being skills to more than 150,000 school students. Army soldiers we have trained have taught resilience and well-being skills to hundreds of thousands of military personnel.

Benefits of the Penn Resilience and Well-Being Programs:

Empirical studies indicate that the programs:

- Increase well-being and optimism
- Reduce and prevent depression, anxiety, and conduct problems
- Improve physical health
- Result in fewer mental health diagnoses, and in one study, fewer substance abuse diagnoses

See the Appendix for details on the research.

Services We Offer:

Penn offers a wide array of Resilience and Well-Being Programs and training services that are customized to fit the needs and culture of your organization, including:

- Brief presentations and workshops for different parts of your organization, such as leadership, management, employees, and selected departments (1 hour to 1 day)
- Professional development programs for more in-depth immersion learning (1 to 5 days)
- Train-the-trainer programs to strengthen your organization's internal training capabilities (up to 8 days)
- Ongoing support and supervision of your trainers as they deliver the resilience and well-being modules
- Coaching by phone and videoconference for individuals and small groups
- Strategic planning on implementation
- Ongoing curriculum customization and upgrades
- Synchronous and asynchronous distance learning, e.g., recorded webcasts, live webinars, online courses, and customized digital solutions
- Ongoing consultation, as needed

Program Content:

The Penn Resilience and Well-Being Programs include empirically validated skills from the fields of cognitive-behavioral therapy (CBT) and Positive Psychology. There is a large scientific literature dating to the 1970s that indicates CBT is an effective treatment for depression, anxiety, and a variety of mental health problems. Our programs incorporate strategies derived from CBT into a prevention model. Programs include a set of skills that build cognitive and emotional well-being, strengths of character, and strong relationships. The skills included in each program vary based on the needs of the client and length of the program.

- **Enhance Cognitive and Emotional Well-Being:** Participants learn how to identify and overcome counter-productive thinking habits that undercut well-being. Participants learn about the many benefits of optimism, including how to accurately identify what is controllable. These skills will also help regulate emotion and energy levels to enable focus and optimal performance, and increase experiences of positive emotion in everyday life to buffer against stress.
- **Cultivate Strengths of Character:** Participants learn how to identify their top character strengths and the character strengths of those around them. Participants learn how to leverage their top character strengths to enhance resilience and well-being and to create a life deep in meaning and consistent with their values.
- **Build Strong Relationships:** Participants explore the key factors that enable relationships to thrive and the relationship-building skills that facilitate the creation of robust support networks. Strong relationships are critical for handling stress and for general well-being.

See “Our Skill Set” on the next page for a list of skills.

Program Teaching Methods:

These highly experiential programs include a variety of hands-on learning opportunities. Participants “learn by doing” through extensive opportunities to practice the skills and receive feedback from instructors. Individual, partner, and small group exercises facilitate skill mastery by enabling participants to practice the resilience and well-being skills and develop strategies for immediate application in their personal and professional life. During the program:

- Program instructors introduce the resilience and well-being skills, including the scientific background, why it matters, and how to use the skill.
- Videos illustrate the skills in use.
- Program instructors demonstrate and role-play the skills.
- Participants have opportunities to practice the skills through exercises (and practice teaching the skills in the train-the-trainer programs), and receive personalized feedback and coaching from instructors.

Our Skill Set

We teach a set of empirically validated skills that target cognitive and emotional well-being, strengths of character, and strong relationships. Through a variety of learning strategies and experiential activities, participants learn how to apply resilience and well-being skills to their lives.

Enhance Cognitive and Emotional Well-Being



ATC: Self-Talk

Enhance resilience by thinking effectively.



Learned Optimism

Notice and expect the positive, focus on what you can control, and take purposeful action.



Avoid Thinking Traps

Identify and correct pessimistic patterns in thinking.



Detect Icebergs

Identify core values and beliefs that drive behavior and fuel out-of-proportion emotions and reactions.



Problem Solving

Fight biases in thinking to accurately identify causes of a problem and generate solutions.



Put It In Perspective

Stop catastrophic thinking, reduce anxiety, and take purposeful action.



Deliberate Breathing

Control your breathing to regulate your thoughts, feelings, and physiology.



Mental Games

Stop counterproductive thinking to build focus.



Real-time Resilience

Shut down counterproductive thinking and build focus and confidence.



Positive Emotions & Savoring

Build positive emotion to increase well-being and buffer against stress.



Gratitude

Cultivate gratitude by noticing and reflecting on what is good in the world.



Rejuvenation

Regulate emotion and energy levels to enable focus and optimal performance.

Cultivate Strengths of Character



Identify and Leverage Character Strengths

Identify top character strengths to enhance resilience and well-being. Notice the character strengths of others.



Character Strengths and Challenges

Leverage character strengths to overcome challenges and enhance success.



Character Strengths and Values

Leverage character strengths to live your values more fully and create the life you want to live.



Character Strengths and Leadership

Leverage character strengths to lead authentically. Identify and leverage character strengths in others to create effective teams.



Use a Signature Strength in a New Way

Identify new ways to use a signature strength to increase well-being and engagement.



Develop a Strength You Value

Plan actions that are designed to build a strength you value.

Build Strong Relationships



High Quality Connections

Develop connections that are characterized by mutual positive regard, trust, and active engagement.



Assertive Communication

Build trust and connection when having difficult conversations through the IDEAL model.



Joy Multiplier

Build trust and connection through sharing in another's joy.

Key Personnel:

Martin E.P. Seligman, Ph.D. Dr. Seligman is the Director of the Penn Positive Psychology Center and a Professor of Psychology in the Penn Department of Psychology. He is also Director of the Penn Master of Applied Positive Psychology program (MAPP), as well as an instructor in the program. He was President of the American Psychological Association in 1998, during which one of his presidential initiatives was the creation of Positive Psychology as a field of scientific study. Dr. Seligman is a leading authority in the fields of Positive Psychology, resilience, learned helplessness, depression, optimism and pessimism. He is also a recognized expert on interventions that prevent depression, and build strengths and well-being. He has written more than 300 scholarly publications and 25 books.

Among his works are *The Hope Circuit* (Public Affairs, 2018), *Flourish* (Free Press, 2011), *Authentic Happiness* (Free Press, 2002), *Learned Optimism* (Knopf, 1991), *The Optimistic Child* (Houghton Mifflin, 1995), *Helplessness* (Freeman, 1975, 1993) and *Abnormal Psychology* (Norton, 1982, 1988, 1995, with David Rosenhan). His book *Character Strengths and Virtues: A handbook and classification*, was co-authored with Christopher Peterson (Oxford, 2004). His books have been translated into more than 45 languages and have been best sellers both in America and abroad. His work has been featured on the front page of the *New York Times*, *Time*, *Newsweek*, *U.S. News and World Report*, *the Reader's Digest*, *Redbook*, *Parents*, *Fortune*, *Family Circle*, *USA Today* and many other popular magazines.

Dr. Seligman is the recipient of various awards, including the American Psychological Association (APA) Award for Lifetime Contributions to Psychology (2017), the Tang Award for Lifetime Achievement in Psychology (2014), the APA Award for Distinguished Scientific Contribution (2006), the Lifetime Achievement Award of the Society for Research in Psychopathology (1997), and the Distinguished Contribution Award for Basic Research with Applied Relevance from the American Association of Applied and Preventive Psychology (1992).

Karen Reivich, Ph.D. Dr. Reivich is the Director of Training Programs at the University of Pennsylvania Positive Psychology Center. She is the lead curriculum developer and instructor, and trains and supervises all training instructors. She earned a Ph.D. in Psychology from the University of Pennsylvania, and is an instructor in the Penn Master of Applied Positive Psychology program (MAPP).

Dr. Karen Reivich is an internationally recognized expert in the fields of resilience, well-being, depression prevention, and Positive Psychology. She has more than 30 years of experience developing and delivering resilience and Positive Psychology programs for educators and their students, U.S. Army soldiers, a professional sports organization, corporate audiences, and more. As lead instructor of the Penn Resilience and Well-Being Programs, she has worked with more than 10,000 participants.

Dr. Reivich's scholarly work focuses on helping parents, educators, and leaders to promote resilience and well-being in adolescents and adults. For 20 years, she was a Co-Principal Investigator of several research studies of the Penn Resilience Program for Middle School and the Penn Resilience Program for College Students funded by the National Institute of Mental Health and the U.S. Department of Education. Dr. Reivich has published extensively in academic journals and edited books in the areas of Positive Psychology and resilience. Her scholarly publications have appeared in academic journals including *Psychological Science*, *Journal of Early Adolescence*, *School Psychology Quarterly*, *Journal of Abnormal Child Psychology*, and *Journal of Consulting*

and Clinical Psychology. She is a co-author of two books: *The Optimistic Child* and *The Resilience Factor*.

Dr. Reivich and her work have been featured in a variety of news and media outlets including *Oprah*, *Prime Time Live*, *The Early Show*, *ABC Nightly News*, *The Big Idea with Donny Deutsch*, *Parenting Magazine*, *The New York Times*, *US News and World Report*, *Better Homes and Gardens*, *The Boston Globe*, *The Philadelphia Inquirer*, *USA Today*, and *The Orlando Sentinel*.

Mr. Peter Schulman is Executive Director of the Positive Psychology Center at the University of Pennsylvania and a graduate of the Wharton School at Penn. He oversees all Center activities, including research grants, training programs, and conferences. His operational responsibilities include oversight of project management, staffing, and financial and contract management.

Mr. Schulman has worked with Dr. Martin Seligman since 1983 and has directed several large-scale, longitudinal, federally funded research grants on the prevention of depression using a cognitive-behavioral intervention. He has written twelve scholarly publications and book chapters. Since 1990, he has played a lead role in the research, development, and large-scale dissemination of the Positive Psychology and resilience training programs. Mr. Schulman was recognized as a 2012 Model Supervisor Finalist in the Penn Models of Excellence Program.

Mayra Marquez is a Resilience Program Manager at the Penn Positive Psychology Center. She has been with the Positive Psychology Center since 2016 and has managed the development and implementation of Positive Psychology and resilience training programs for the U.S. Army, Department of Defense, professional corporations and more. Ms. Marquez graduated from Swarthmore College with a major in Economics and a minor in Latin American Studies. Previously, Ms. Marquez worked as a Program Director of a non-profit organization called Girls on the Run, where she delivered programs to young girls that teach healthy living and character development through training for a 5K.

Jennifer Knapp is a Resilience Program Manager at the Penn Positive Psychology Center. Since joining the Center in 2017, Ms. Knapp has worked to develop and implement Positive Psychology and resilience training programs for a wide variety of clients including corporate leadership, primary and secondary education, healthcare, and more. Ms. Knapp graduated from Elizabethtown College with dual degrees in Psychology and Sociology/Anthropology. Prior to joining the Penn Positive Psychology Center, Ms. Knapp worked as a Project Manager at a software company that studied employee engagement and created tools and resources to help organizations improve engagement within their workforce.

Brittney Schlechter is the Curriculum Development Manager at the Penn Positive Psychology Center. She has been with the center since 2017 and has worked to create and implement customized Positive Psychology and resilience curriculum for a variety of clients including primary and secondary education, corporate leadership, healthcare, and more. Ms. Schlechter graduated from Penn State University with a degree in Psychology prior to graduating from Kutztown University with a Master's in Education, specializing in Student Affairs Administration. Ms. Schlechter has previously worked as an Assistant Director for Leadership and Experiential Learning at Rutgers University and an Activities and Volunteer Coordinator at Penn State University, designing leadership development and civic engagement curriculum to help develop the whole student.

Jenna Tarrant is a Resilience Program Manager at the Penn Positive Psychology Center. She joined the Center in 2018 and manages the development and implementation of Positive Psychology and resilience training programs for clients throughout the corporate, academic, and government sectors. Ms. Roberg graduated from the University of Wisconsin – Madison with a degree in Social Work with a focus on Advocacy in Multicultural Settings, later returning to earn her Master’s degree in Social Work with a focus on Policy and Administration. Ms. Roberg has previously worked on research integration initiatives for the Perelman School of Medicine at Penn, managed AmeriCorps and volunteer programs for nonprofits in Wisconsin and Texas, and developed evidence-based policy strategies for city government in Madison, Wisconsin.

Appendix: Background and Empirical Research

Following is a brief overview of the empirical research on the different components of the Penn Resilience and Well-Being Programs, including information and research related to:

1. Program Background
2. Empirical Studies on Penn Resilience Programs
 - a. The Penn Resilience Program for Secondary School Students
 - b. The Penn Resilience Program for College Students
3. Empirical Studies on the Comprehensive Soldier and Family Fitness Program
4. Empirical Studies on Additional Interventions
 - a. Cognitive and Emotional Well-Being Interventions
 - b. Character Strengths Interventions
 - c. Strong Relationships Interventions

1. Program Background. The Penn Resilience and Well-Being Programs teach skills that prevent and reduce mental health problems, as well as skills that increase well-being. Decades of research have demonstrated that there are many aspects of resilience and well-being that are teachable in a brief course. The Penn Resilience and Well-Being Programs are based on two bodies of empirical research. The first body of research is the empirical validation of the foundational Penn Resilience Programs. These studies demonstrate the effectiveness of the Penn Resilience Program in preventing and reducing depression and anxiety, as well as increasing optimism and well-being. The second body of research is the empirical validation of additional interventions included in the Penn Resilience and Well-Being programs, which draw from the fields of cognitive-behavioral therapy and Positive Psychology.

In the sections that follow, we will provide a brief overview of the empirical studies from both bodies of research related to the Penn Resilience and Well-Being Programs.

2. Empirical Studies on Penn Resilience Programs. Since 1990, research by Drs. Seligman, Gillham, Reivich, and their colleagues has focused on the development and evaluation of school-based prevention programs for adolescents and young adults that are based on CBT. These programs were designed to prevent and reduce depression and anxiety by cultivating optimism and more adaptive cognitive, social, and emotional skills.

- a. **The Penn Resilience Program for Secondary School Students.** There is an extensive body of research examining the effects of the Penn Resilience Program for Secondary School Students. This program has been evaluated by the Penn research group and other research teams in at least 20 controlled studies with more than 2,000 children and adolescents from a variety of demographic and socio-economic backgrounds. Although several studies have evaluated the programs with suburban U.S. samples that are predominantly of European American descent (e.g., Brunwasser & Gillham, 2018, Gillham, Reivich, et al., 2006; Jaycox, Reivich, Gillham, & Seligman, 1994), evaluations have also included inner city African American and Latino samples (Cardemil, Reivich, & Seligman, 2002; Cardemil, Reivich, Seligman, & James, 2007; Farahmand, et al., 2011), as well as children in China (Yu & Seligman, 2002), Australia (Pattison & Lynd-Stevenson, 2001; Quayle, Dziurawiec, Roberts, Kane, & Ebsworthy, 2001; Roberts, Kane, Thomson, Bishop, & Hart, 2003), Bhutan (Adler, 2016), the Netherlands (Tak, Lichtwarck-Aschoff, & Gillham, 2006) and the United Kingdom (Challen, Machin, & Gillham, 2014).

Taken together, the existing studies suggest that the Penn Resilience Program for Secondary School Students increases optimism, reduces hopelessness, and reduces and prevents symptoms of depression and anxiety (for a review, see Gillham, Brunwasser, & Freres, 2007). A meta-analysis of existing studies on the adolescent program found that the effects were significant through one year post-intervention, which was the last assessment point examined (Brunwasser, Chaplin, & Gillham, 2007). The Penn Resilience Program for Secondary School Students has been shown to reduce depressive symptoms and anxiety symptoms as measured by self-report (Cardemil, Reivich, Beevers, Seligman, & James, 2007; Chaplin et al., 2006; Gillham et al., 2006; Gillham, Reivich, Jaycox & Seligman, 1995; Jaycox et al., 1994). In one study, the Penn Resilience Program for Secondary School Students halved the rate of moderate to severe depressive symptoms (Gillham et al., 1995).

Importantly, the effects of the programs also appear to be long-lasting. In studies that include long-term follow-ups, the program's effects often endure for two years or more. The Penn Resilience Program for Secondary School Students has been shown to prevent moderate to severe depressive symptoms for at least two years (Cardemil, Reivich, Beevers, Seligman, & James, 2007; Gillham & Reivich, 1999; Gillham et al., 1995) and to prevent high levels of anxiety symptoms across long-term follow-up (Gillham et al., 2006). Another study examined the program's effects on clinical diagnoses and found significant prevention of combined depression, anxiety, and adjustment disorder diagnoses across a two-year follow-up period among children with elevated levels of baseline symptoms (Gillham, Hamilton, Freres, Patton, & Gallop, 2006). In another universal effectiveness study with a sample of 697 students from three suburban middle schools, the Penn Resilience Program for Secondary School Students significantly reduced depressive symptoms through 30 months of follow-up relative to the control group in two of the three schools (Gillham et al., 2007).

The Penn Resilience Program for Secondary School Students has also been shown to reduce conduct and behavioral problems. For example, a study that implemented a matched controlled design found that the adolescent program improved behavior as reported by both teachers and parents through the 6-month follow-up (Jaycox et al., 1994), and a randomized controlled study found significant prevention of aggressive and delinquent behaviors as

assessed by parent report 24 to 36 months after the intervention (Cutuli, Chaplin, Gillham, Reivich, & Seligman, 2006).

Research suggests that the quality and amount of training that group leaders receive is essential for effective implementation and may explain inconsistent findings. The program usually has beneficial effects when those who deliver the curriculum receive extensive training but is often not effective when leaders receive minimal training. One study used an intervention integrity coding system and found that the adolescent program prevented depressive symptoms when implemented with high fidelity but not when implemented with low fidelity (Gillham, Hamilton, et al., 2006). In a study in the UK, the Penn Resilience Program for Secondary School Students was administered in 18-hour long session facilitated by school staff. This study led to minimal impact on depressive symptoms immediately after the study and no measurable impact at a one to two year follow-up (Challen, Machin, & Gillham, 2014). Additionally, a meta-analysis of school-based mental health and behavioral programs targeting low income and urban schools shows that while 5 of the programs they looked at were deemed effective, a majority (16 programs, 55%) were seen as ineffective. This demonstrates that programs created and implemented under solely the guidance of school officials do not often show significant results (Farahmand, Grant, Polo, Duffy, & DuBois, 2011).

- b. The Penn Resilience Program for College Students.** Among young adults, the Penn Resilience Program for College Students has prevented clinically relevant levels of depression and anxiety symptoms. Young adults who participated in the resilience program had significantly fewer episodes of generalized anxiety disorder than the control group after the intervention and fewer moderate depressive episodes as measured by clinician ratings. (Seligman, Schulman, DeRubeis, & Hollon, 1999). The program has also been shown to reduce depressive symptoms and anxiety symptoms as measured by self-report (Seligman et al., 1999).

The Penn Resilience Program for College Students has also led to improvements in explanatory style, hopelessness, and dysfunctional attitudes (Seligman et al., 1999; Seligman, Schulman, & Tryon, 2007), as well as to increases in well-being (Seligman et al., 2007). In these studies, improved explanatory style was a significant mediator of the prevention effects for depressive and anxiety symptoms. Effects are also seen on physical health outcomes – young adults who completed the resilience program reported fewer symptoms of physical illness, made fewer visits to doctors and health centers (Buchanan, Gardenswartz, & Seligman, 1999).

3. Empirical Studies on the Comprehensive Soldier and Family Fitness (CSF2) Program.

Starting in 2009, Penn played a mission critical role in partnering with the Army to create and implement a large-scale train-the-trainer resilience program. The Penn Resilience Program is the foundation of the Army's Comprehensive Soldier and Family Fitness (CSF2) program. CSF2 falls under the Army Resilience Directorate's Ready and Resilient Campaign to enhance psychological fitness among Soldiers, their Families, and Army Civilians.

The 10-day classroom-based course is based largely on the Penn Resilience Program (PRP) developed by the University of Pennsylvania. To date, more than 40,000 Soldiers have participated in this train-the-trainer program (becoming Master Resilience Trainers, or "MRTs")

and these Soldiers have taught the resilience skills to hundreds of thousands of Soldiers and Army Civilians around the world.

Research compared brigades of Soldiers who had Master Resilience Trainers in their units to brigades who did not have a Master Resilience Trainer (Lester, Harms, Herian, Krasikova, & Beal, 2011). Outcomes of the CSF2 Program show that soldiers in brigades with an MRT scored significantly better on the Emotional Fitness dimension and five of the nine subscales that are used to measure Emotional Fitness (adaptability, character, good coping, positive affect, and optimism) than the control. Soldiers in units with an MRT scored significantly higher on the Social Fitness dimension and the subscale measuring friendship. The results of the analysis provide evidence that resilience training has a positive impact upon soldiers' Emotional and Social Fitness. Those in the intervention condition appeared to experience less catastrophic thinking over time, while the use of catastrophic thinking did not significantly change in the control condition from Time 1 to Time 2 (Lester, Harms, Herian, Krasikova, & Beal, 2011).

Additional research on the CSF2 Program showed that exposure to resilience training increased various aspects of Soldiers' self-reported resilience and psychological health which, in turn, appeared to be associated with a reduced likelihood of receiving a diagnosis for a mental health problem (i.e., anxiety, depression, or posttraumatic stress disorder [PTSD]) (Harms, Herian, Krasikova, Vanhove, & Lester, 2013). The findings provided evidence that Soldiers exposed to the training were diagnosed with substance abuse problems at a significantly lower rate than Soldiers who were not exposed to the training. When considered at the organizational level, the effects of resilience training may reach beyond improving the health of individual Soldiers by improving the aggregate health and effectiveness of the Army as an organization. The findings provide evidence that interventions such as those offered by CSF2 may help relieve the stress that is currently being placed on medical services in the Army (Harms, Herian, Krasikova, Vanhove, & Lester, 2013).

4. Empirical Studies of Specific Interventions. In addition to the above studies of the Penn Resilience Program for Secondary School Students and College Students, along with CSF2, the Penn Resilience and Well-Being Programs include specific interventions that have been validated in other studies. The following is a summary of empirically validated interventions from the fields of Positive Psychology and cognitive-behavioral therapy that inform the creation and implementation of The Penn Resilience and Well-Being Programs.

a. Cognitive and Emotional Well-Being Interventions.

Research shows that improving cognitive and emotional well-being has significant impacts on several domains, including mental health, physical health, well-being, and academic/workplace performance factors.

The Penn Resilience and Well-Being Programs include techniques central to cognitive-behavioral therapy (CBT). CBT has been shown to be roughly as effective in treating unipolar depression among adults as antidepressant medication and produces marked relief in about 65% to 70% of patients (Beck, Hollon, Young, Bedrosian, and Budenz, 1985; Dobson, 1989; Hollon et al., 1992). Effective treatments have been causally linked to improvements in explanatory style (DeRubeis & Hollon, 1995).

In addition, CBT is an effective treatment for anxiety (Butler, Chapman, Forman, & Beck, 2006), as it reduces symptoms of panic disorder (Gould, Otto, & Pollack, 1995; Mitte, 2005), generalized anxiety disorder (Gould, Otto, Pollack, & Yap, 1997), social phobia (Taylor, 1996), obsessive-compulsive disorder (Abramowitz, 1997), and PTSD (Foa et al., 2005). There is also evidence that CBT is an effective treatment of anger problems (Beck & Fernandez, 1998) and reduces the experience of chronic pain (Morley, Eccleston, & Williams, 1999). CBT has also prevented relapse after the termination of therapy and may have greater preventive effects than antidepressant drugs (Blackburn, Eunson, and Bishop, 1986; Evans et al., 1992; Hollon and Najavits, 1988; Paykel et al., 1999; Shea et al., 1990; Simons, Murphy, Levine, and Wetzel, 1986). Unlike pharmacotherapy, cognitive therapy teaches a set of skills that can be applied long after the end of therapy (Hollon, DeRubeis, & Seligman, 1992). Since the majority of depressed individuals suffer multiple episodes, the capacity of an intervention to prevent future episodes is at least as important as its ability to treat the current episode.

Penn Resilience and Well-Being Programs offer cognitive and emotional well-being interventions that teach participants how to develop skills such as optimism, positive emotions, gratitude, awe, and rejuvenation. Each concept and skill is further explained below, including why each is important to cultivate along with critical research findings that validate these interventions. In a meta-analysis on the efficacy of Positive Psychology interventions, the combined results of 49 studies revealed that Positive Psychology interventions do, in fact, significantly enhance well-being, and the combined results of 25 studies showed that Positive Psychology interventions are also effective for treating depressive symptoms (Sin & Lyubomirsky, 2009). Positive psychotherapy, which uses exercises like practicing gratitude, using signature strengths, and savoring, has been shown to relieve depressive symptoms on self-reported and clinician rated measures (Seligman et al., 2006), and these effects were maintained through a one-year follow-up (Seligman, Rashid & Parks, 2006). The Penn Resilience and Well-Being Programs use these skills in the design and implementation of trainings.

- i. **Optimism.** Cultivating optimism is beneficial in increasing resilience, mental and emotional well-being, social support, relationship satisfaction, productivity and success (Alarcon, Bowling & Khazon, 2013; Brissette, Scheier & Carver, 2002; Metalsky, Abramson, Seligman, Semmel, & Peterson, 1982; Proudfoot, Corr, Guest & Dunn, 2009; Seligman, Nolen-Hoeksema, Thornton & Thornton, 1990; Seligman & Schulman, 1986; Srivastava, McGonigal, Richards, Butler, & Gross, 2006). Optimism also predicts productivity and retention in the workplace (Seligman & Schulman, 1986), as well as college retention, academic success, and motivation in students (Solberg, Evans & Segerstrom, 2009; Tetzner & Becker, 2017). As an example, optimistic salespeople sold 37% more insurance than pessimistic salespeople in their first two years on the job. Additionally, when compared in their first year of employment, pessimists are two times as likely to quit as compared to optimists (Seligman & Schulman, 1986). In a randomly assigned study, participants who experienced a 7 week cognitive-behavioral training program with foundations in optimism had improved outcomes in attributional style, job satisfaction, self-esteem, psychological well-being, and productivity when compared to a control group. Furthermore, the results were later replicated in a wait-list group once they received the training (Proudfoot et al., 2009).

There is a significant body of research on optimism that demonstrates its benefits on physical health, such as in sleep patterns, immune response, and mortality. For example, those who are more optimistic had an increased immune response after receiving the flu vaccine (Kohut, Cooper, Nicolaus, Russell & Cunnick, 2002). Optimistic women are one-third less likely to die from heart disease when compared to pessimistic women over an eight year period, and pessimistic women overall have higher rates of mortality (Tindle et al., 2009). Pessimistic men are more likely to develop serious heart problems (Everson, Kaplan, Goldberg & Salonen, 2000; Helgeson & Fritz, 1999; Kubzansky, Sparrow, Vokonas & Kawachi, 2001) and have higher rates of mortality (Brummett, Helms, Dalhstrom & Siegler, 2006).

For those who are more optimistic, research has shown benefits on mental health and well-being. Studies with athletes show that optimism increases resilience under adversity (Seligman, Nolen-Hoeksema, Thornton & Thornton, 1990) and predicts lower incidence of depression in students (Metalsky, Abramson, Seligman, Semmel & Peterson, 1982; Patton et al., 2011).

- ii. **Positive Emotions.** The experience of positive emotions can increase one's creativity, problem solving, relationship satisfaction, trust, and prosocial behaviors, while also decreasing stress (Amabile, Barsade, & Mueller, 2005; Carlson, Charlin, & Miller, 1988; Fredrickson & Levenson, 1998; Gable, Gonzaga, & Strachman, 2006; Gottman, Coan, Carrere, & Swanson, 1998; Isen, Daubman & Nowicki, 1987; Keltner, Young, Heerey, Oemig & Monarch, 1998; Lauer, Lauer & Kerr, 1990; Tugade & Fredrickson, 2004; Ziv, 1976). Research shows that positive emotions lead to faster recovery from cardiovascular changes (Fredrickson & Levenson, 1998; Tugade & Fredrickson, 2004) and improved health markers (Stellar et al., 2015).

The Penn Resilience and Well-Being Program teaches participants skills to cultivate positive emotions. Research from Quoidbach, Berry, Hansenne, and Mikolajczak (2010) has shown that the practice of focusing attention on the present moment and positive rumination were associated with higher levels of positive affect. Telling others about positive events was associated with increased satisfaction with life.

- iii. **Gratitude and Awe.** The practice of gratitude and awe has been shown to increase sleep, physical health, critical thinking, humility, kindness, productivity, and job satisfaction while decreasing depression, anxiety, stress, entitlement, and materialism (Cheng, Tsui & Lam, 2015; Emmons & McCullough, 2003; Grant & Gino, 2010; Griskevicius, Shiota & Neufeld 2010; Piff, Dietze, Stancato & Keltner, 2015; Rudd, Vohs & Aaker, 2012; Stellar et al., 2015);. In Emmons and McCullough's research on gratitude, they studied those in a gratitude condition (who were prompted to reflect weekly on gratitude-inducing experiences) versus those who reflected on recent hassles and a control condition (2003). Those in the gratitude condition were rated by their spouse as higher in positive affect and life satisfaction compared to the hassle and those in a control conditions. These gratitude group participants also self-reported more overall life satisfaction, felt more optimistic about the coming week, and felt more connected to others (Emmons & McCullough, 2003). The experience of awe can lead to improved health markers (Stellar et al., 2015), enhanced critical thinking (Griskevicius, Shiota &

Neufeld, 2010) and a greater willingness to volunteer to help others (Rudd, Vohs & Aaker, 2012).

Methods for increasing gratitude and awe have been validated in many research publications. For example, the practice of directing one's attention to three good things daily for a period of one week has been shown to reduce depressive symptoms through three to six months' follow-up relative to the control group, and increase and sustain happiness through six months, provided participants continued the exercises on their own. Within the same study, completing a gratitude visit has also been shown to be an effective exercise, evidenced by strong but short-term effects on depression and happiness, relative to the control (Seligman, Steen, Park & Peterson, 2005). In a study of Chinese health care providers who participated in gratitude journaling about work-related events (at a rate 2x per week for 4 weeks), both depression and perceived stress decreased over the 1 month intervention (Cheng, Tsui, & Lam, 2015). Those who reflect daily on what they are grateful for score higher on observational reports and self-reports of positive affect, life satisfaction, and optimism (Emmons & McCullough, 2003).

Key performance factors are impacted by the growth of cognitive and emotional skills. Those who work in a gratitude-rich environment increase their productivity when compared to a control group in a weeklong study (Grant & Gino, 2010). Receiving gratitude, along with experiencing other positive emotions, increases prosocial behavior compared to control groups (Grant & Gino, 2010; Piff, Dietze, Stancato & Keltner, 2015). Those who reflect on what they are grateful for sleep longer than those in the control group (Emmons & McCullough, 2003).

- iv. **Rejuvenation** Those who practice rejuvenation are shown to have increases in life satisfaction, pain tolerance, greater attention in high-demand tasks, and social support while decreasing depression and stress (Fredrickson, Cohn, Coffey, Pek, & Finkel, 2008; Kabat-Zinn, 1982; Speca, Carlson, Goodey, & Angen, 2000; Teasdale, Segal, Williams, Ridgeway, Soulsby, & Lau, 2000). It has been found that meditation practice can increase daily experiences of positive emotions (Fredrickson et al., 2008). Deliberate breathing has proven to be effective in preventing stress related working memory impairments (Banks, Welhaf & Srour, 2015). Furthermore, relaxation training has shown a medium-large effect size in treatment for anxiety (Manzoni, Pagnini, Castelnuovo & Molinari, 2008). This evidence is critical as many face the physical and emotional consequences of stress on a consistent basis.

b. Character Strengths Interventions.

Those who use and cultivate their character strengths are shown to have increased well-being, life satisfaction, happiness, workplace engagement, as well as decreased incidences of depression (Asplund & Blacksmith, 2011; Rust, Diessner & Reade, 2009; Seligman, Steen, Park, & Peterson, 2005; Sievert, Zwir, Cloninger, Lester, Rozsa, & Cloninger, 2016; van Woerkon, Oerlemans & Rotterdam, 2016;).

Research indicates that exercises designed to cultivate character strengths can reduce depression and increase well-being. When participants use their character strengths in a new way, they have been shown to reduce depressive symptoms through three to six months' follow-up relative to the control group, and increase and sustain happiness through six

months (Seligman et al., 2005). Additionally, research has found that both using signature strengths and actively leveraging a lower-scoring strength on a regular basis increases life satisfaction relative to the control group during a twelve week intervention study (Rust et al., 2009). Those who use their character strengths at work have been shown to increase workplace engagement, self-efficacy, and proactive behavior (Hone, Jarden, Duncan & Schofield, 2015; van Woerkon et al., 2015). Managers who focus on character strengths within themselves and their teams have improved employee engagement on their teams (Asplund & Blacksmith, 2011).

c. Strong Relationships Interventions.

Research indicates that relationships are critical to well-being, and interventions that teach interpersonal communication skills and build strong relationships enhance well-being and performance. Interpersonal psychotherapy which focuses on resolving interpersonal issues a person is faced with has been found to be effective in treating depression (Cuijpers et al., 2011). In addition, having strong relationships can increase well-being, physical health, success and trust while decreasing depression, mortality, and PTSD (Feng et al., 2007; Holt-Lunstad, Smith, Baker, Harris & Stephenson, 2015; Teo, Choi, & Valenstein, 2013; Umberson & Montez, 2010; Wisdom & Wei, 2017;). Researchers have found that individuals who experienced a natural disaster and had low social support were more likely to develop PTSD than those who had high social support (Feng et al., 2007). Meta-analysis on studies designed to compare peer support interventions for depression with typical psychotherapy found that peer support interventions improve depression symptoms at rates comparable to group CBT (Pfeiffer, Heisley, Piette, Rodgers, & Valenstein, 2011). In a longitudinal study, individuals with high quality social relationships had half the risk of depression as those with low quality social relationships, when evaluated over a ten-year period (Teo, Choi & Valenstein, 2013). These findings highlights the importance of having strong social supports and it being critical for many facets of life.

Strong relationships are critical not only to individual well-being, but to organizational well-being as well. Empirical evidence shows that High Quality Connections improve functioning in both groups and individuals by affecting various cognitive, physiological, and behavioral processes (Stephens, Heaphy & Dutton 2011). For example, when members of an organization experience High Quality Connections, they also experience greater levels of psychological safety and trust. These increases lead to improved learning from failures (Stephens et al., 2011). Increased psychological safety also leads to increased willingness to admit to mistakes, ask for help, and share ideas (Edmondson & Lei, 2014). In the workplace, teams with high levels of trust outperform teams that score low in trust in terms of achieving team goals as evidenced over the course of a two-year study (Wisdom & Wei, 2017).

This collective research on strong relationships, cited above, demonstrates the positive benefits in the areas of physical and emotional health and work performance from cultivating relationships. The Penn Resilience and Well-Being Programs uses this evidence base to inform the design and implementation of their resilience trainings.

- See next page for References.

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