

Resilience Training for Functioning Adults: Program Description and Preliminary Findings from a Pilot Investigation

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Abstract: *It has previously been asserted that the construct of resilience holds great promise for diverse high-risk populations and that resilience may be an attribute that can be acquired through training. A rich body of literature suggests the strengths that comprise resilience. This paper describes a resilience training program based upon the identified strengths of resilience and provides additional preliminary data from a pilot investigation which lend support to the idea that resilience can be acquired through training. Suggestions for future research are provided. [International Journal of Emergency Mental Health, 2010, 12(2), pp. 117-130].*

Key words: *resilience, mental health, intervention*

Everly and colleagues (Everly, Welzant, and Jacobson, 2008) have asserted that the construct of resilience holds great potential for diverse high-risk populations (such as law enforcement, fire suppression, emergency medical services, and the military) and suggest, based upon their preliminary data related to perceived confidence and preparedness, that resilience may be an attribute that can be acquired through training. They write (p. 262): “Resilience may be thought of as the ability to positively adapt to and/or rebound from

significant adversity and the distress it often creates...[A]n emerging field of research [has focused] on studying resiliency from the true perspective of primary prevention, with the goal of determining characteristics that support or improve resilience prior to exposure to stressful or traumatic event.” This paper describes a resilience training program designed to build its foundational strengths, and offers further support for the idea that resilience might be enhanced through training.

The Importance of Resilience

The high prevalence rates of stress-related mental illnesses in community samples are well documented. For example, according to the National Co-morbidity Survey and its more recent replication (NCS-R), nearly one in two adults in the U.S. will experience a mental illness, principally anxiety, impulse control, mood, or substance abuse disorders (Kessler et al., 1994; Kessler, Berglund, et al., 2005). Find-

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ings from the NCS-R indicated that younger adults (18-29 and 30-44) had the highest prevalence of mental disorders (52.4 and 55.0%, respectively; Kessler, Berglund, et al., 2005). Despite the high prevalence, Kessler, Demler, and colleagues (2005) reported that many with mental disorders are not seeking any form of treatment.

Further, researchers have found evidence of increasing mental distress in individuals following exposure to terrorism, natural disasters, and other traumatic events (American Red Cross, 2001; Agronick, Stueve, Vargo, & O'Donnell, 2007; Beaton, Murphy, & Corneil, 1996; Calderoni, Alderman, Silver, & Bauman, 2006; Centers for Disease Control and Prevention, 2002; Corneil, 1993; Davis & Macdonald, 2004; Krug et al., 1998; Moline, Herbert, & Nguyen, 2006; North et al., 1999; Schlenger et al., 2002; Schuster et al., 2001; Silver, Holman, McIntosh, Poulin, & Gil-Rivas, 2002; Weiss, Marmar, Mezler, & Ronfeldt, 1995). In a recent study, Hoge and colleagues (2004) reported significantly higher rates of mental disorders, especially post-traumatic stress disorder (PTSD), among soldiers and Marines returning from Iraq compared to pre-deployment rates.

While the suffering caused by stress-related mental disorders is widely recognized, most who need the services of mental health professionals will not receive them for a variety of reasons (stigma, inability to pay, supply/demand imbalance, etc.). Thus, the Surgeon General's 1999 Mental Health Report called for preventive education interventions to reduce the impact of risk factors for mental disorders, indicating that individuals welcome diverse self-managed interventions (Department of Health and Human Services, 1999). Earlier, it has been argued that only widespread inoculation approaches to prevention will effectively decrease rates of not only physical diseases but mental illness as well (Albee & Gulotta, 1986; DeArmond & Marsh, 1984). Resilience training "vivifies an emerging paradigm shift in mental health, built around the intriguing possibility that psychological dysfunction can be better approached through prevention than by struggling, however valiantly and compassionately, to undo deeply-rooted damage" (Cowen, Wyman, Work, & Iker, 1995, p. 248).

Conceptualizing Resilience

In this program, resilience was conceptualized as those psychological strengths (i.e., strengths of mind and character) that help to prevent the occurrence of, reduce the severity

of, and hasten rebounding from symptoms of stress-related mental illnesses and psychological distress, as well as promote growth and adaptive functioning under duress across the lifespan (Schiraldi, 2007b). This definition incorporates three concepts frequently associated with resilience: *resistance* (Bonanno, 2004; Yi, Smith, & Vitaliano, 2004), *rebounding* (buoyancy), and *adaptation/competence* (Block & Block, 1980; Block & Kremen, 1996; Carver, 1998; Lazarus, 1993; Luthar & Cicchetti, 2000; Richardson, 2002; Werner & Smith, 1992). From a practical viewpoint, many of the same skills that facilitate prevention are generally thought to promote optimal performance, adaptation, rebounding, and growth both under duress and across the lifespan. In research, resilience is often measured with a valid and reliable scale (e.g., Wagnild & Young, 1993).

Purpose

While some promising studies suggest that at-risk children can be strengthened through resilience interventions (Cowen et al. 1995; Seligman, 1995; Stallard et al. 2005), less is known about developing resilience across the lifespan (Werner, 2005). Although Hines, Meringer, and Wyatt (2005) state that resilience behavior can occur at any development stage, the majority of resilience research has been conducted among younger populations with minimal knowledge about how this concept operates in adulthood (Campbell-Sills, Cohan, & Stein, 2006). College students represent a valuable starting point for resilience training research among adults. Still in their formative years, and open to exploring mental health issues (DeArmond & Marsh, 1984), they are also convenient to test over the course of a semester. Earlier research indicated that symptoms of mental distress could be reduced in functioning college students through a cognitive-behavioral small-group course (Schiraldi & Brown, 2001a; 2001b).

The primary purpose of this paper is to describe a semester-long, small-group format college course for functioning adults organized around cultivating and reinforcing the strengths of resilience.

Program Development and Description

From a thorough review of the literature concerning resilient survivors (e.g., Dicks, 1990; Frankl, 1959; Parker, Cowen, Work, & Wyman, 1990; Schiraldi, 2007b; Werner & Smith, 1992; Wolin & Wolin, 1993; also see Everly, Welzant,

and Jacobson, 2008 for overview) fourteen strengths comprising resilience were identified: (1) calm under pressure (calm focus, concentration, and functioning; absence of malice and impulsivity; composure); (2) rational thinking; (3) self-esteem; (4) sociability (interpersonal skills); (5) comfort with emotions (and the other aspects of emotional intelligence, such as ability to name and regulate emotions); (6) active/adaptive (flexible and creative) coping; (7) balanced living (physical health, varied interests, etc.); and seven philosophical and spiritual strengths—(8) meaning and purpose; (9) integrity; (10) optimism; (11) humor; (12) love/altruism; (13) faith; and (14) a long view of suffering (e.g., finding growth opportunities in adversity). Theoretically, teaching principles and skills to promote these strengths could result in increases in resilience and related variables, and decreases in symptoms of mental distress.

The course met twice weekly, 75 minutes each session, in small groups of twenty or fewer, for fifteen weeks. Taught by a Ph.D. level instructor, the course was patterned after the stress inoculation training model (Meichenbaum, 1985), consisting of three phases: (1) a relatively short didactic phase, (2) cognitive-behavioral skills acquisition and rehearsal phase, and (3) in-vivo application phase. The format of typical sessions included processing homework assignments (in-vivo application), introducing new principles (didactic) and skills (CBT skill acquisition), and assigning out-of-class activities (in-vivo application). Since journal writing has been associated with improvements in mood (Pennebaker, 1997), participants made a journal entry reflecting their experience with the skills and principles discussed and practiced, and how they were faring generally between each class. Journal entries also provided invaluable feedback to the instructor with regard to the effectiveness of the various skill practices. Although assigned readings explored all fourteen strengths of resilience, time did not permit principles and skills related to some of these strengths to be specifically explored. Instead, priority was given to principles and skills that: overlap across many of the fourteen strengths; were related to strengths consistently emphasized in the literature; and/or were evidence based. While the instructions for the principles and skills taught in this intervention are detailed elsewhere (Schiraldi, 2000; 2001; 2002; 2007a), they are overviewed below (a simplified overview is at Table 1).

- Session 1-3 discussed theory and key studies. Because mental functioning is influenced by physical functioning, participants developed and implemented

a physical health plan, including sound nutrition, regular exercise, and regular, sufficient sleep.

- Sessions 4-9 focused on calm under pressure and rational thinking principles and skills. Marra (2005) has described the numerous common symptoms of arousal in the so-called disorders of arousal (depression, anxiety, posttraumatic stress disorder, anger, impulse control disorders, and addictions), and Lipsky, Kassonov, and Miller (1980) have shown that generic cognitive therapy reduces symptoms of depression, anxiety, neuroticism, and hostility, irrespective of individual diagnoses. Consequently, participants were taught various ways to control arousal: breath control, progressive muscle relaxation, heart coherence, and, following the pattern of Beck (1995) and Ellis and Harper (1975), cognitive restructuring.
- Sessions 10-15 focused on solidifying self-esteem, because self-esteem has been found to be strongly related to resilience and well-being in various cultures and age groups (Brown, Schiraldi, & Wroblewski, 2003; Hobfall & London, 1986; Hobfall & Walfisch, 1986; Lee, Brown, Mitchell, & Schiraldi, 2007; Parker et al., 1990; Zhang, 2005). Self-esteem was defined as a realistic, appreciative opinion of self, based upon a sense of unconditional worth as a person, unconditional love, and growth. Following a number of awareness-raising exercises, participants were taught eleven self-esteem skills that had been previously developed and tested (Schiraldi, 2001; Schiraldi & Brown, 2001a; Schiraldi & Brown, 2001b). These skills helped participants to realistically recognize innate strengths and unique combinations of strengths, separate worth as a person from externals (e.g., imperfect performance, wealth, or appearance), experience wholesome compassion, and actively plan to cultivate character and personality strengths.
- Sessions 16-17 further developed emotional intelligence by teaching ways to acknowledge distressing emotions and manage intense anxiety. Anxiety was defined as worry plus emotional arousal. Participants were led through a costs/benefits analysis of worry in order to raise awareness and reduce resistance to change. They then developed lists of the positive consequences of worrying less, and the opposites of worry. Worry management skills were then practiced

Table 1.
Overview of the Cognitive-Behavioral Intervention

Sessions	Key Concepts Taught	Activities
1-3	<ul style="list-style-type: none"> • Introductory sessions: Overview of theory and key studies 	<ul style="list-style-type: none"> • Participants developed and implemented a physical health plan, which included proper nutrition, regular exercise, and sufficient sleep
4-9	<ul style="list-style-type: none"> • Calm under pressure • Rational thinking principles and skills 	<ul style="list-style-type: none"> • Arousal control techniques <ul style="list-style-type: none"> ◦ Breath control, progressive muscle relaxation, heart coherence, and cognitive restructuring
10-15	<ul style="list-style-type: none"> • Self-esteem • Identify inner strengths and unique combinations of strengths • Compassion and character 	<ul style="list-style-type: none"> • Awareness-raising exercises • Self-esteem skills
16-17	<ul style="list-style-type: none"> • Recognize distressing emotions • Management of intense anxiety 	<ul style="list-style-type: none"> • Cost/benefits analysis of worry • Worry management skill building • Confiding emotional wounds (including traumatic memories)
18-25	<ul style="list-style-type: none"> • Mindfulness 	<ul style="list-style-type: none"> • Mindfulness skill building <ul style="list-style-type: none"> ◦ Included mindfulness-based cognitive therapy, mindfulness meditations, Acceptance and Commitment Therapy (ACT) defusing skills
26	<ul style="list-style-type: none"> • Realistic optimism 	<ul style="list-style-type: none"> • Analyzed pessimistic and optimistic explanations for negative outcomes • Self-instruction training • The “At Least” optimism exercise
27-29	<ul style="list-style-type: none"> • Resilient survivors 	<ul style="list-style-type: none"> • Analyzed books about resilient survivors
30	<ul style="list-style-type: none"> • Final session • Review of material 	<ul style="list-style-type: none"> • Reflected on most useful components of classes • Discussion of personal resilient strengths/weaknesses • Presentation of lifetime resilience plan

and assigned. Participants journaled the facts and feelings surrounding their present worries, a method which Borkovec, Wilkinson, Folensbee and Lerman (1983) found to significantly reduce worries in adults. They then confided in writing the facts and feelings surrounding emotional wounds from the past. Pennebaker (1997) found that this method improved mood and immunocompetence after a few days, with practitioners indicating that such processing of traumatic memories helped them to gain perspective,

understanding, and distance from traumatic memories.

- Sessions 18-25 were devoted to mindfulness training, following the pattern of the Mindfulness-based Stress Reduction program (Kabat-Zinn, 1990). Mindfulness training, which is increasingly used in U.S. military settings ranging from training to treatment (Hufford, Fritts & Rhodes, 2010), teaches people to calmly exist with the full range of emotions, treating all emotions

the same—responding with acceptance, patience, compassion, openness, non-judgment, good humor, non-attachment, dignity, and humility. Research has shown that mindfulness training increases activation in the left pre-frontal cortex, the area of the brain associated with optimism, positive emotions, more adaptive responding to distressing events, and other attributes related to resilience (Davidson et al., 2003). Mindfulness training also appears to improve gamma-band synchronization in the brain, which is thought to relate to beneficial attention and affective processes (Lutz, Greischar, Rawlings, Ricard, & Davidson, 2004). In addition to reducing diverse psychosomatic symptoms, mindfulness practice is often reported as helping people feel calmer, more confident in managing intense feelings, more empathic, and “more comfortable in their own skin” (Andresen, 2000; Kabat-Zinn, 1990). Like cognitive therapy, mindfulness seems to be a useful generic tool for improving mental health. However, instead of teaching people to fight their distressing thoughts, mindfulness teaches people to simply acknowledge them and then go beneath them. The mindfulness skills, including mindfulness-based cognitive therapy (Segal, Williams, & Teasdale, 2002), various mindfulness meditations, and related Acceptance and Commitment Therapy defusing skills (Hayes & Smith, 2005) are further detailed in Schiraldi (2007a).

Session 26 was devoted to building realistic optimism, the attitudinal underpinning of active coping, which has been related to better mental, physical, and occupational health (Peterson & Bossio, 1991). Optimism was conceptualized as the attitude that doing one’s best will cause things to turn out as well as possible, that one can rise above temporary defeat, and that one can find something to enjoy, grow from, and anticipate in even the most dire circumstances. The optimistic explanatory style (Peterson & Bossio, 1991) was explained and participants practiced assigning and contrasting pessimistic and optimistic explanations for negative outcomes in their lives. Self-instruction training asked participants to anticipate a difficult situation (defeats, traumas, failures, etc.) and then identify optimistic thoughts for before, during, and after the difficult situations. The At Least exercise stimulated optimism, curiosity, and a longer

view of suffering, requiring participants to look beyond negative outcomes to see what is still right and what growth and enjoyment might still transpire. For example, a veteran might think “I lost a leg, but at least I didn’t lose an eye” (Hendin & Haas, 1984). Another might think, “At least I learned that I can survive almost anything,” and realize a greater sense of confidence. Forgiving was explored as a new way to view the past.

- Sessions 27-29 encouraged analysis on three books about resilient survivors: *Man’s Search for Meaning* (Frankl, 1959; about surviving the Holocaust), *Days of Grace* (Ashe & Rampersad, 1993; about surviving prejudice and innocently-contracted AIDS), and *Deep Survival* (Gonzales, 2003; about surviving wilderness and other crises). These works provide profound insights into the diverse resilience themes, including:
 - Having a sound plan, but not being wed to the plan (active planning, flexibility)
 - Being mindful, paying attention, focusing, remaining calm under pressure
 - Having a flexible/beginner’s mind (not being unduly influenced by one’s mental map or predeterminations)
 - Altruism
 - Determination, perseverance
 - Meaning and purpose
 - Lack of bitterness, forgiveness
 - Character and morality; spirituality
 - Humor, finding joy amidst difficult circumstances
 - Traumatic growth
- The final session afforded the opportunity to summarize and reinforce learning. Rather than passively receiving a review from the instructor, participants were asked to review all classes and then identify and present the principles and skills that they found most useful, relevant, and/or meaningful. They discussed the resilience strengths that they felt had improved and which still need strengthening. Finally, they each presented a lifetime resilience plan, including the principles and skills that they will continue to apply or improve upon.

A Pilot Investigation

Theoretically, increasing the protective factors of resilience would be expected to result in increases in resilience and other indicators of adaptation and mental well-being (self-esteem, optimism, happiness, and curiosity), while decreasing symptoms of mental distress (depression, anxiety, and anger)—as measured by standardized scales. In order to partially test this premise, preliminary data from a pilot investigation is reported herein.

METHOD

A within-subjects pre-test and post-test design was utilized with a total of 37 participants in two separate trainings (two sections offered in consecutive semesters in a school of public health at a large, public university in the mid-Atlantic). Students chose this course from a list of offerings in interdisciplinary and emerging issues in order to fulfill a graduation requirement. Course enrollment was limited to no more than twenty students, a size that is amenable to small-group processes. Following procedures approved by the university's Institutional Review Board, participants were administered the same assessment at pre- and post-test.

A total of 40 students were enrolled in the course during the two administrations. During the first course administration, 18 of 20 students completed the post-test (90% of initial sample; two students being absent at post-test). During the second course administration, 19 of 20 students completed the post-test (95% of initial sample; one student dropped at the beginning of the semester). The final pooled sample of 37 students represented 95% of those who participated in the course. Regarding attendance, one student missed three sessions; all others missed no more than two. The final sample was nearly 60% female, largely white (87% white, 5% black, 5% Hispanic, 3% Asian) and traditionally aged (18-21).

The 107-item assessment, administered at pre- and post-test, measured participants on a variety of mental health constructs as well as demographic variables that could be used for statistical control in analyses (e.g., gender, age). Reliable and valid measures were used to assess resilience, optimism, happiness, self-esteem, curiosity, anxiety, depression, and anger (See Table 2).

RESULTS

Table 3 shows pre-test means, post-test means, mean differences between time periods, dependent t-value with associated p, and Cohen's standardized effect sizes (Cohen, 1973). Cohen's d values were calculated using the mean differences and pooled variance from pre- to post-test rather than t value and degrees of freedom so as to not artificially inflate the effect sizes. Mean differences for all constructs were statistically significant at $\alpha = .05$, and all means differed from pre- to post-test in the hypothesized direction. Thus, results suggest statistically significant changes on all variables resulting from completion of the training program. This is noteworthy because pre-test averages for depression, anxiety, and anger were already low and pre-test averages for the five scales measuring positive adaptation and well-being were already high in this apparently healthy group. [Curiosity has been linked to resilience by several researchers, including Block and Kremen (1996), Klohnen (1996), and Tugade and Fredrickson (2004), theoretically being related to active and creative coping.] Also, to our knowledge this is the first investigation to show that a semester's course might enhance resilience, as measured by a standardized scale. As one would expect, then, resilience training, as implemented in this program, appeared to increase subjective indicators of positive adaptation, while reducing subjective indicators of mental distress.

Intervention effects ranged from very large to small, with the largest effects observed for resilience, optimism, and one of the two measures of self-esteem, a moderate effect observed for curiosity, and small effects observed for the two happiness scales, the second self-esteem scale, anger, depression, and anxiety. Effect sizes of .2 were considered small, .5 moderate, and .8 large, in accordance with Cohen (1988). Additional analyses indicated that the observed intervention effects did not differ significantly by gender or across treatment periods. Of heuristic interest, Walter and colleagues (2010, p. 108) have noted that in evaluating resilience programs, "even seemingly small effect sizes can have meaningful effects when (a) the process is cumulative and (b) when large populations are involved... Intervention programs... are often designed to be cumulative—teaching skills that generalize across time and situations," and thus might potentially benefit large segments of the population.

Table 2. Scales Used on Pre- and Post-test Assessment				
Construct of Interest	Number of Items	Response Option Scale Format	Reliability (Alpha)	Citation
Resilience	25	7-point Likert (Disagree-Agree)	.91	Wagnild & Young, 1993
Optimism	12 (8 for analysis)	5-point Likert (Strongly Disagree-Strongly Agree)	.76	Scheier & Carver, 1985
Happiness	1	Scale of 0 to 10 (Extremely unhappy-Extremely happy)	N/A*	Fordyce, 1988
	1	% of time one feels happy	N/A*	Fordyce, 1988
Self-esteem	10	4-point Likert (Strongly Disagree-Strongly Agree)	.77	Rosenberg, 1965
	12	4-point Likert (Strongly Disagree-Strongly Agree)	.96	Schiraldi, 1999
Anxiety	10	4-point frequency (Almost Never-Almost Always)	.91-.92	Spielberger, 1979
Depression	10	4-point frequency (Almost Never-Almost Always)	.91-.93	Spielberger, 1979
Anger	10	4-point frequency (Almost Never-Almost Always)	.94	Spielberger, 1979
Curiosity	10	4-point frequency (Almost Never-Almost Always)	.96	Spielberger, 1979

* Strong reliability and validity data (Fordyce, 1988) suggest that these are among the best single-item indicators of happiness.

DISCUSSION: STRENGTHS AND LIMITATIONS

The limitations of any study, especially a pilot investigation, must be seriously considered before results are interpreted and future studies are planned. In this study, the absence of a control or comparison group does not rule out the effects of threats to internal validity (history, maturation, Hawthorne effect). To increase confidence in the findings,

future research must utilize controlled, randomized conditions, more subjects, and long-term follow-up results. Given the conceptual complexities of resilience, future studies must also answer two key questions: (1) Does resilience training actually decrease the incidence of stress-related mental disorders, including PTSD, depression, and anxiety? (2) Does resilience training actually promote adaptation (including the optimization of performance and mental health) under condi-

Table 3.
Key Statistics for Constructs of Interest ($n = 37^*$)

	Mean	S.D.	Mean Difference	t	p (2-tailed)	Cohen's d
<i>Wagnild Resilience Scale</i> (higher score = higher resilience)						
Pretest	136.811	11.105	10.297	5.725	0.000	0.984
Posttest	147.108	9.786				
<i>Scheier & Carver Life Orientation Test: Optimism</i> (higher score = positive orientation)						
Pretest	29.281	3.920	3.531	6.014	0.000	0.975
Posttest	32.813	3.297				
<i>In general, how happy or unhappy do you feel?</i> (higher score = more happy)						
Pretest	7.459	1.386	0.514	2.918	0.006	0.423
Posttest	7.973	1.013				
<i>What percent of the time do you feel happy?</i>						
Pretest	71.081	20.625	8.568	3.007	0.005	0.486
Posttest	79.649	14.016				
<i>Rosenberg Self-Esteem Scale</i> (higher score = higher self-esteem)						
Pretest	34.618	4.539	1.824	3.050	0.004	0.401
Posttest	36.441	4.554				
<i>Schiraldi Self-Esteem Check-Up</i> (higher score = higher self-esteem)						
Pretest	42.440	3.809	3.240	4.503	0.000	1.052
Posttest	45.680	2.116				
<i>STPI Anxiety Subscale</i> (higher score = higher anxiety level)						
Pretest	17.400	4.230	-1.543	-2.524	0.016	-0.368
Posttest	15.857	4.145				
<i>STPI Depression Subscale</i> (higher score = higher depression)						
Pretest	15.912	4.107	-1.824	-3.328	0.002	-0.477
Posttest	14.088	3.519				
<i>STPI Anger Subscale</i> (higher score = higher anger level)						
Pretest	18.629	4.716	-1.543	-2.388	0.023	-0.388
Posttest	17.086	3.062				
<i>STPI Curiosity Subscale</i> (higher score = higher curiosity)						
Pretest	29.618	4.465	2.765	4.445	0.000	0.620
Posttest	32.382	4.459				

*Cases where any items were missing were omitted from analysis of that scale.

tions of extreme adversity? Additionally, future research must attempt to uncover the most effective “active ingredients” of resilience training in order to possibly shorten the length of the program, thus making resilience training more useful to

a wider range of high risk groups. Finally, future research must determine if resilience training is effective for diverse high-risk groups.

While the results are only preliminary, our impression is that three factors might account for the promising gains and suggest heuristics for resilience training. First, the small-group format used in this intervention lends itself to team building and the cultivation of a sense of comfort, in a way that large lectures and individualized study typically do not. The many opportunities to discuss successes and failures promote the idea that all participants are in “the same boat” and are growing as a team in the acquisition of important coping skills. Hearing peers report successes with skills practice can be motivating, while discussing difficulties in applying resilience skills can stimulate fruitful problem-solving discussions.

Second, we have observed that the stress inoculation training model has an intrinsic appeal as regards skills acquisition. Participants readily recognize that simply hearing a principle or hearing about a coping skill does not guarantee mastery and the ability to successfully apply that skill under pressure. Rather, the skill must be practiced repeatedly, until it can be applied successfully under pressure. Participants readily recognize parallels with skilled and confident performance in athletic, acting, or high-stress professional arenas. The stress inoculation approach also saves valuable class time by assigning out-of-class practice. Further, the process of mastering coping skills through experiential repetition enables participants to become resources for others in various settings.

Third, our impression is that resilience training builds a rich range of coping skills that go well beyond traditional stress management training and produces individuals with a broader and deeper coping repertoire. For example, the inclusion in resilience training of optimism, self-esteem, and mindfulness and other methods of emotional regulation teaches emotional intelligence skills (Bar-On, 1997; Mayer & Salovey, 1997) that are potentially useful across the lifespan.

Conclusion

The development and initial indicators of success for the resilience training program reported in this paper, which was designed to improve self-reported resilience by cultivating its foundational strengths, lends some support to the notion that resilience can be acquired and/or strengthened in functioning adults, in this case, in a classroom setting, through a program that emphasizes preventive principles and skills. This paper has described a semester-long course in resilience

training. Preliminary data indicates that the course led to improvements in the hypothesized directions for resilience and related indicators of adaptation and mental well-being (self-esteem, optimism, happiness, curiosity, depression, anxiety, and anger).

Everly and colleagues (Everly, Welzant, and Jacobson, 2008, p. 261) call resilience and resistance the “final frontier in traumatic stress management.” Resilience training might ultimately be offered in a wide range of settings, including school, community, and workplace settings (Institute of Medicine, 2003). Although it is important to minimize physical risks, such as terrorism, and to train for the continuity of post-disaster operations as they relate to technology and infrastructure (Everly, Welzant, and Jacobson, 2002), equipping people preventively with emotional survival skills to mitigate psychological distress seems equally important. Because resilience training has the potential to help individuals respond optimally to predictable traumatic events, future research must uncover the most effective, economical ways to provide it to diverse populations.

Should future research confirm the effectiveness of resilience training in university settings, it would then be important to determine if similar training would have beneficial effects among other populations (e.g., military, community, firefighters). Potentially, rigorous resilience training might be of use in military basic training, fire and police academies, and/or when presented in modules at various points of continuing professional development, as the Australian Defence Force has begun to do (Cohn & Pakenham, 2008).

Vaillant (1977) found that mental health in college predicted medical health decades later, while Tugade and Fredrickson (2004) found that resilient individuals bounce back not only psychologically, but physiologically faster. These findings possibly suggest medical benefits from resilience training. Future research, then, might explore the relationship between increases in resilience through resilience training and medical health. Adding a resilience instrument to standard health risk assessments that already exist in medical settings might further clarify the relationship between resilience and medical health.

The authors are currently exploring whether incorporating partial peer-facilitation into resilience training yields results comparable to this study. If this approach is effective, it might suggest an auxiliary role for peers in resilience training. This would not only be a cost-effective way to stretch

limited training resources, but research suggests that student learning is facilitated by involvement in the teaching process (Dixon & Gudan, 2000; Gafney & Varma-Nelson, 2007; Lockspeiser, O'Sullivan, & Teherani, 2008).

Recently, Everly (2009) highlighted the need to address the challenging pre-crisis education/preparedness component of CISM. Resilience training might be one important way of meeting this challenge.

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