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▲ Determining the Efficacy of Resiliency Training in the Work Site

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Resilience and resiliency training, an approach that encompasses the complementary and alternative medicine movement, seems to be an important concept and philosophy that can be embraced by allied health professionals. The purpose of this study was to determine the efficacy of a work-site resiliency training program (personal resilience and resilient relationships [PRRR]) by evaluating its impact on innate resilience/reintegration, selected resilient qualities (self-esteem, locus of control, purpose in life, and interpersonal relations), and job satisfaction. The experimental group received the PRRR training, and the control group did not receive any training. The PRRR training comprised five 8-hour training modules. The study was implemented at a large government organization's facility in Northern Utah. A total of 232 participants were assigned randomly by work unit into the PRRR training group ($n = 123$) and the control group ($n = 109$); 150 participants (73 in the experimental and 77 in the control group) were present at all three data collections and were eligible for analysis. Significant and positive change occurred in the experimental group, based on combined survey data, with regard to five of the six variables, with job satisfaction being the only variable not showing positive change in this group. The control group saw no positive effects. The results of the study support the efficacy of the PRRR training as implemented in the work site. *J Allied Health*. 2004; 33:178-183.

ALLIED HEALTH TRAINING for the most part focuses on health diagnoses, symptoms, and risk factors associated with physical disease. Now allied health professions find themselves in a time of academic and health transformation where it has become prudent for allied health care professionals to be aware of the philosophies, theories, and interventions that comprise diagnoses, symptoms and individual strengths. For example, optimism, hope, and self-efficacy facilitate healing.¹ As part of this health transfor-

mation, medical schools and insurance companies gradually are accepting various forms of complementary and alternative medicine (CAM), and CAM is now the fastest growing sector of health care in the United States. In 1990 there were 425 million visits to CAM providers compared with 330 million visits to primary care physicians. In 1997, there were 629 visits to CAM providers compared with 386 million visits to physicians. This is a 48% increase in CAM visits compared with 17% in primary care.¹

The metatheory of resilience and resiliency embraces building mind, body, and spirit to promote optimal health among patients and consumers. Resilience counseling and training provides the umbrella for CAM's experiential support. Resiliency and resilience is a vital approach for allied health professionals to become aware of and an area in which to be trained. Rather than just treating or diagnosing physical symptoms, professionals would be able to treat the whole person and focus on the healing power of individual strengths.

It became clear to the researchers that a series of studies needed to be conducted to determine the impact of resilience training on people. Many allied health professionals work in human resource or health facilities in non-health care settings. Their mission is to promote health among employees, with an additional aim of preventing absenteeism, increasing job satisfaction, and increasing productivity. The purpose of this article was to determine the impact of resilience training on the psychospiritual health of employees as indicated by levels of self-esteem, locus of control, purpose in life, interpersonal relations, and job satisfaction in a large government organization.

Metatheory of Resilience and Resiliency

The first wave of resiliency inquiry identified characteristics that are evident in people who effectively cope with and grow through disruptions.²⁻⁹ These resilient qualities, such as self-esteem, internal locus of control, self-efficacy, and numerous other qualities, serve as dependent variables for resilience interventions. The second wave of resiliency inquiry identified the process for acquiring the resilient qualities identified in the first wave. *Resiliency* is defined as the process and experience of being disrupted by change, opportunities, stressors, and adversity and, after some introspection, ultimately accessing gifts and strengths (resilience) to grow stronger through the disruption.¹⁰ The resiliency process has been validated in three different studies on varied

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populations.¹¹⁻¹³ The third wave of resiliency inquiry is the discovery of innate resilience within individuals. *Resilience* is defined as (a force within everyone that drives them to seek self actualization, altruism, wisdom, and be in harmony with a spiritual source of strength).¹² The metatheory of resilience and resiliency also suggests that resilience is the motivation drive requisite for people to engage in healthy practices.²

In the wake of the three waves of resiliency inquiry was the development of a resilience and resiliency education program entitled "Personal Resiliency"¹⁴ and "Resilient Relationships."¹⁵ The combined personal resilience and resilient relationships programs (PRRR) are biopsychospiritual enrichment programs that purport to improve mental and spiritual health. The desired outcome of the PRRR is to enhance resilient qualities. The purpose of this study was to determine the efficacy of a PRRR training program for government employees by evaluating its impact on innate resilience/reintegration, selected resilient qualities (self-esteem, locus of control, purpose in life, and interpersonal relations), and job satisfaction.

Methods

SAMPLING AND DESIGN

Twelve work units were selected and matched by the nature of unit work and responsibility by government executives, from the accessible population of all swing-shift work units in the tax-form processing division of a large government organization in Northern Utah. The sampled work units were assigned randomly into the PRRR training group (six units) and a control group (six units) that received no training, resulting in a total sample of 232 participants. Work units occupied different physical workspaces in the facility, reducing contamination between the PRRR training group and the control group. Contamination could not be avoided completely, however, because employees and managers had opportunities to interact outside of work periods and in work-related meetings.

PROCEDURES

The entire PRRR experiential education program was provided by a single trainer to members of the experimental group at the large government facility in Northern Utah. Unit managers and workers were involved in the training. The PRRR program was implemented once a week for 7 hours, over 5 weeks, for a total of 35 hours.

The nature of the intervention can be deduced from the following examples of training program goals and is described further by Richardson and Waite:¹⁶

1. The participants will learn of their own innate resilience and understand how to access, nurture, and use its energy.
2. The participants will have personal experiences validating the existence of resilience from a multidisciplinary perspective (e.g., Chi, quanta, collective unconscious).

3. The participants will have practical experiences and learn skills in recognizing and using resilience to be able to increase energy and focus energy in performing job functions.
4. The participants will understand the process and choices of disruptions and reintegrations to be able to grow through adversity and challenge.
5. The participants will have experiences in freeing themselves from shadow actions that compromise job productivity and happiness.
6. The participants will develop interpersonal skills that move unit relationships from destructive to constructive and again from constructive to resilient functioning units.

Follow-up review sessions with the six unit managers in the experimental group were provided by the trainer every other week, for 1 to 2 hours, over 6 weeks. This was done to aid managers in their efforts to perpetuate the effectiveness and spirit of the PRRR training and to provide an opportunity for managers to report back informally on how things were going.

Data collection occurred at three times: the week before the beginning of the training, the week after the training, and 10 weeks after the training ended. The dates for the survey administration were February 28, March 11, and May 23, 2001. Unit managers and unit workers completed surveys.

INSTRUMENTATION

Several instruments consisting of 77 items, 5 demographic items, and an informational cover sheet were used in this study. The compiled survey was intended to provide some measure of innate resilience and reintegration, various protective qualities (self-esteem, locus of control, purpose in life, and interpersonal relations), and job satisfaction as an avenue for determining the effectiveness of the PRRR training. On all scored items, higher scores indicated a higher level of that particular variable being measured.

Resilience and Reintegration

Resilience and reintegration (RES) was measured by using 20 items that were drawn from the Spirit Core Scale¹⁷ and were modified to reflect the dimensions of innate resilience and the concept of reintegration detailed by Richardson.² Each item was answered on a 5-point Likert scale with responses from *strongly agree* to *strongly disagree*. The scale obtained a Cronbach's coefficient α of 0.94 on development of the scale. In this study, the items used for this variable obtained combined Cronbach's α ranging from 0.90 to 0.94.

Self Esteem

Self-esteem (SE) was measured using the entire Rosenberg Self-Esteem Scale,¹⁸ a 10-item instrument with items answered on a 5-point Likert scale with responses from

strongly agree to *strongly disagree*. The items measured global feelings of self-worth or self-image. The Rosenberg instrument obtained a Cronbach's α reliability coefficient of 0.81 in previous research.¹⁹ In this study, the scale obtained a combined Cronbach's α of 0.88 at each use.

Locus of Control

Locus of control was measured using a portion of the Multidimensional Locus of Control Scale.²⁰ This scale is a 24-item instrument composed of internal, powerful others, and chance subscales. Items were answered on a five-point Likert scale with responses from *strongly agree* to *strongly disagree*. Only the internal subscale (ILOC), containing eight items, was used in this study. The questions measured the degree one perceives events in life as being a consequence of one's own acts. The other subscales were excluded because they are used to measure risk qualities, but not protective or resilient qualities, which reflects the purpose of this study. This subscale had a Kuder-Richardson reliability coefficient of 0.67 in prior research.²¹ In this study, the subscale obtained combined Cronbach's α ranging from 0.64 to 0.71.

Purpose In Life

Purpose in life (PIL) was measured by using 19 items drawn from the Purpose in Life Test.²² The scale is a 20-item instrument with items answered on a 5-point scale from low purpose to high purpose. The items measured the degree to which a person has acquired purposeful direction in life. The reliability split-half correlation coefficient obtained for the scale was 0.85 with the original sample. In this study, the items used for this variable obtained combined Cronbach's α ranging from 0.88 to 0.89.

Interpersonal Relations

To measure interpersonal relations (IR), a portion of the Health-Promoting Lifestyle Profile II²³ was used. This instrument is a 52-item survey, divided into six subscales: spiritual growth, health responsibility, physical activity, nutrition, interpersonal relations, and stress management. On each item, subjects indicated whether they never, sometimes, often, or routinely engaged in the specified behavior. Seven items drawn from the nine-item interpersonal relations subscale were used in this study. During development of the original Health-Promoting Lifestyle Profile instrument, the construct validity was established by the performance of an item analysis and a factor analysis. The results of these procedures confirmed that the final items remaining on the instrument loaded onto six distinct factors, from which the subscales were created. The entire instrument had a Pearson test-retest coefficient of 0.926, and the subscales ranged from 0.808 to 0.905. The instrument also obtained a Cronbach's α of 0.922, and the sub-

scales ranged from 0.702 to 0.904.²³ In this study, the items used for this variable obtained combined Cronbach's α ranging from 0.83 to 0.86.

Job Satisfaction

Job satisfaction (JS) was measured using 13 items drawn from the SURVEY2000 IRS/NTEU Employee Satisfaction instrument.²⁴ This survey is a 95-item instrument. The 78 nondemographic items were answered on a 5-point Likert scale with responses from *strongly agree* to *strongly disagree*, reflecting 18 categories of job satisfaction: general, training, resources/support, empowerment/involvement, quality, management effectiveness, manager/employee relations, manager communications, performance management, respect, ethics, manager effectiveness, summary, the role of NTEU, reprisal/retaliation, discrimination, sexual harassment, and personal effectiveness. No validity or reliability evaluation was found on the job satisfaction instrument. In this study, the items used for this variable obtained combined Cronbach's α ranging from 0.86 to 0.88.

ANALYSIS

Descriptive statistics were generated for the data representing each dependent variable at the time of the pretest, posttest, and follow-up for the experimental and the control groups. Cronbach's coefficient α were calculated for each dependent variable at each data collection to assess reliability. An omnibus repeated measures analysis of variance (ANOVA) test ($\alpha = 0.05$) was used to determine if there was a significant interaction between time and group assignment in explaining the variance in each dependent variable. Bonferroni adjustments were made so that the α level for the following step-down *t*-tests was set at 0.007. Independent samples *t*-tests were run as step-down procedures to determine whether there was a significant difference between the groups at the pretest, posttest, and follow-up. Paired samples *t*-tests were run as step-down procedures to determine whether there was a difference over time between the pretest, posttest, and follow-up data for the experimental and the control groups.

Results

A total of 150 participants (60%)—73 from the PRRR training group and 77 from the control group—were present for all three of the data collection sessions (i.e., pretest, posttest, and follow-up). Table 1 describes the analysis sample as having been predominantly white and female. Most subjects were young adults and married. The analysis sample included a mixture of subjects who had a short-term, medium-term, and long-term history of working for the government organization.

The sample means and SDs for the PRRR and control group are presented in Table 2. The sample participants

TABLE 1. Description of Analysis Sample

Characteristic	Sample		Total
	PRRR Group	Control Group	
No. valid cases	73	77	150
Age			
18-33	49	40	89
34-49	19	23	42
≥50	4	14	18
Missing	1	0	1
Gender			
Male	12	12	24
Female	61	65	126
Marital status			
Married	41	45	86
Unmarried	32	32	64
Race/Ethnicity			
White	65	69	134
Nonwhite	7	8	15
Missing	1	0	1
Length of employment			
≤1 year	20	20	40
1-5 years	36	35	71
≥5 years	17	21	38
Missing	1	2	3

scored moderate to high on each of the variable scales used at all data collections.

The repeated measures ANOVA tests revealed significant interactions between time and group assignment (i.e., PRRR group) in explaining the variance in scores on each of the study variables ($p < 0.05$). Subsequent step-down Independent samples t -tests revealed that the two groups' scores on the study variables did not differ statistically at time of the pretest, posttest, or the follow-up ($p < 0.007$).

Paired samples t -tests revealed significant positive changes in PRRR experimental group scores in five of the six study variables from the pretest to the posttest: the RES variable ($t = -3.425$, $p < 0.007$), the SE variable ($t = -3.425$, $p < 0.007$), the ILOC variable ($t = -6.557$, $p < 0.007$), the PIL variable ($t = -7.455$, $p < 0.007$) and the IR variable ($t = -4.368$, $p < 0.007$). This positive change in PRRR group scores was maintained in four of these five changed variables until the follow-up data collection: the RES variable ($t = 0.559$, $p = 0.578$), the SE variable ($t = 0.660$, $p = 0.551$), the PIL variable ($t = 2.244$, $p = 0.028$) and the IR variable ($t = 1.092$, $p = 0.278$). The ILOC variable decreased significantly from posttest to follow-up. The control group experienced no statistical change in scores from the pretest to posttest or posttest to follow-up except in the JS variable. The control group JS variable scores decreased significantly from the pretest to the posttest ($t = 4.531$, $p < 0.007$). This change was maintained to the follow-up data collection ($t = -1.624$, $p = 0.109$).

TABLE 2. Descriptive Statistics

Groups	N (Valid Cases)	Data Collection		
		Pretest	Posttest	Follow-up
RES Variable				
PRRR group	71			
Mean		4.18	4.33*	4.31
SD		0.43	0.42	0.44
Control group	72			
Mean		4.34	4.27	4.27
SD		0.38	0.45	0.47
SE variable				
PRRR group	67			
Mean		3.86	4.12*	4.09
SD		0.58	0.52	0.57
Control group	70			
Mean		4.04	4.12	4.12
SD		0.62	0.64	0.62
ILOC variable				
PRRR group	65			
Mean		3.48	3.77*	3.65†
SD		0.40	0.40	0.40
Control group	64			
Mean		3.65	3.67	3.65
SD		0.37	0.48	0.42
PIL variable				
PRRR group	67			
Mean		3.86	4.15*	4.07
SD		0.47	0.42	0.49
Control group	71			
Mean		4.02	4.03	4.06
SD		0.44	0.50	0.51
IR variable				
PRRR group	71			
Mean		2.86	3.11*	3.06
SD		0.63	0.66	0.61
Control group	73			
Mean		2.92	2.90	3.04
SD		0.53	0.55	0.63
JS variable				
PRRR group	64			
Mean		3.77	3.81	3.82
SD		0.47	0.43	0.50
Control group	71			
Mean		3.83	3.63‡	3.73
SD		0.46	0.48	0.54

*Indicates a significant positive change from the pretest to the posttest, $p < 0.007$.

†Indicates a significant negative change from the pretest to the posttest, $p < 0.007$.

‡Indicates a significant negative change from the posttest to the follow-up, $p < 0.007$.

Discussion

The purpose of this study was to determine the efficacy of the PRRR training program by examining its effects on resilience/reintegration, self-esteem, locus of control, purpose in life, interpersonal relations, and job satisfaction. The scores from the PRRR group were lower on every variable at the time of the pretest, suggesting the possibility that the groups were different in some particular way. Subsequent step-down independent samples *t*-tests revealed, however, that the study groups' scores on the study variables did not differ statistically at the time of the pretest, posttest, or follow-up. If the PRRR group entered the study and began the training significantly "lower" on all of the measured variables, the following findings take on a greater impact.

The findings indicate, with the exception of job satisfaction, that the PRRR intervention was effective at creating a positive change in the study variables. There was an apparent buffering effect of the PRRR training with regard to job satisfaction. According to the government executives at the facility where the study took place, the time period in which the PRRR training took place is the busiest time of the year, when demands are high on all employees. Although the training did not seem to stimulate greater job satisfaction on the part of PRRR participants, it did seem to serve as a buffer against a decrease in job satisfaction that was observed in the control group.

With the exception of the locus of control measure, scores obtained from the PRRR training group did not change significantly from the posttest data collection to the 10-week follow-up data collection. This finding may indicate that the follow-up review sessions held with PRRR group managers were successful at providing instruction, ideas, and support in their attempts to maintain positive change resulting from the PRRR training. If this is the case, the booster sessions might have to be considered an integral part of any resilience and resiliency training to maintain long-term effects.

It is likely that the results would have been even more efficacious if conditions were altered. First, the size of the PRRR educational group was more than 100 people, and smaller groups would have provided better interaction. The rationale for the large group was to ensure the content consistency for all employees, in addition to logistical concerns. The qualitative responses from participants supported this notion by suggesting that the size of the training group be reduced to improve the effectiveness of the training.

Second, although most participants attended all sessions, data analyses included participants who may not have attended one or two sessions. This partial attendance by PRRR training participants may have diminished the overall magnitude of the impact of the training as measured by the dependent variables in this study.

Third, from the exhaustive list of resilient qualities that all could be enhanced from resilience education programs, practicality ruled that only selected instruments would be

used. It is likely that other resilient qualities could have been measured and subsequently identified other positive outcomes. Qualitative self-report or manager evaluations indicated that participants credited resilience training with quitting smoking (three participants), although smoking cessation was not part of the training. Others reported beginning a fitness program although exercise was not covered directly in the training. Overwhelmingly, most of the participants were happier at work and at home, yet these were not quantitatively measured. A behavioral assessment would have provided more objective measures for perceived improvements.

Finally, the qualitative feedback from participants and managers noted that employees in work units that did not receive the resiliency training were envious of those who did. Work became more fun, and productivity measures for the experimental group increased. Some of the experimental group managers also reported productivity levels higher than any time in recent history after the resilience education program.

The study had other limitations. The potential for the Hawthorne effect existed in this study. Participants may have shown change simply because they received training and attention, whereas the control group did not. This limitation was difficult to avoid. The researchers' inability to provide an equivalent alternative control training was primarily due to their limited access to the facility, limited personnel to carry out such training, and time and space restrictions placed on them by the government organization.

Finally, the study sample may have been atypical because of the young age and the high concentration of women. Although many allied health professions are similar in composition, it may be imprudent to generalize these results to older and majority male workforces.

The purpose of this study was to determine the efficacy of resilience training on selected resilient qualities. The measures significantly improved, which opens the door for additional studies to determine the effectiveness of resilience education on specific behaviors, such as smoking cessation, weight control, fitness activity, and drug prevention or cessation. It also would invite studies to look at the effect of resilience training on medical conditions that allied health professionals might encounter.

Implications

A new approach to allied health care may be in the making. One of the primary postulates of resilience training is that a resilience educator needs to be resilient to be able to teach resilience. A complementary postulate is that to heal, the allied health professional should be healed. To give a breath of life, one needs to have the breath themselves. Many allied health professionals and students are struggling underneath the weight of financial, relationship, and work site pressures. One implication is that allied health professionals in hospitals and other settings may need to become

more resilient themselves. Integrative health care may require physical treatment and psychospiritual treatment. Resilient interventions coupled with medical interventions may treat the whole person better.

REFERENCES

1. Pelletier KR. *The Best Alternative Medicine: What Works? What Does Not?* New York: Simon & Schuster, 2000.
2. Richardson GE. The meta-theory of resilience and resiliency. *J Clin Psychol* 2002;58:307-321.
3. Rutter M. Protective factors in children's responses to stress and disadvantages. In Kent MW, Rolf JE (eds). *Primary Prevention of Psychopathology, Vol III. Social Competence in Children*. Hanover, NH: University Press of New England, 1979:49-74.
4. Rutter M. Resilience in the face of adversity: Protective factors and resistance to psychiatric disorder. *Br J Psychiatry* 1985;147:598-611.
5. Garnezy N, Masten AS, Tellegen A. The study of stress and competence in children: A building block for developmental psychopathology. *Child Dev* 1984;55:97-111.
6. Garnezy N. Resiliency and vulnerability to adverse developmental outcomes associated with poverty. *Am Behav Scientist* 1991;34:416-430.
7. Werner EE. *Vulnerable but invincible: A Longitudinal Study of Resilient Children and Youth*. New York: McGraw-Hill, 1982.
8. Werner E, Smith R. *Overcoming the Odds: High Risk Children from Birth to Adulthood*. Ithaca, NY: Cornell University Press, 1992.
9. Benson PL. *All Kids Are Our Kids*. Minneapolis: Search Institute, 1997.
10. Richardson GE, Neiger B, Jensen S, Kumpfer K. The resiliency model. *J Health Educ* 1990;21:33-39.
11. Neiger B. *Resilient Reintegration: Use of Structural Equations Modeling*. Unpublished doctoral dissertation. University of Utah, Salt Lake City, 1991.
12. Dunn D. *Resilient Reintegration of Married Women with Dependent Children: Employed and Unemployed*. Unpublished doctoral dissertation, University of Utah, Salt Lake City; 1994.
13. Walker RJ. *Resilient Reintegration of Adult Children of Perceived Alcoholic Parents*. Unpublished doctoral dissertation, University of Utah, Salt Lake City, 1996.
14. Richardson GE. *Corporate Personal Resilience Student Workbook*. Salt Lake City, UT: The Human Experience Institute, 1999.
15. Richardson GE. *Resilient Relationships Student Workbook*. Salt Lake City, UT: The Human Experience Institute, 1999.
16. Richardson GE, Waite PJ. Mental health promotion through resiliency education. *Int J Emerg Ment Health* 2002;4: 65-75.
17. Johnson K. *Measuring the Spirit and Spiritual Attributes of Resiliency*. Unpublished doctoral dissertation, University of Utah, Salt Lake City, 1998.
18. Rosenberg M. *Society and the Adolescent Self-Image*. Princeton, NJ: Princeton University Press, 1965.
19. Abood D, Conway T. Health value and self-esteem as predictors of wellness behavior. *Health Values* 1992;16:20-26.
20. Levinson H. Distinctions within the concept of internal-external control: Development of a new scale. *Proceedings of the 80th Annual Convention of the American Psychological Association* 1972;7:259-260.
21. Levinson H. Multidimensional locus of control in psychiatric patients. *J Consult Clin Psychol* 1973;41:397-404.
22. Crumbaugh J. Cross-validation of a Purpose-In-Life test based on Frankl's concepts. *J Individ Psychol* 1968;24:74-81.
23. Walker S, Sechrist K, Pender N. The health-promoting life-style profile: Development and psychometric characteristics. *Nurs Res* 1987;36:76-81.
24. Internal Revenue Service. *Survey2000 IRS/NTEU employee satisfaction [IRS Form 9766 (Rev. 2-2000), Catalog No. 215831]*. Washington, DC: Department of Treasury, 2000.