

TriService Nursing Research Program Final Report Cover Page

Sponsoring Institution

TriService Nursing Research Program

University of Miami

Address of Sponsoring Institution

4301 Jones Bridge Road

5030 Brunson Drive, Coral Gables, FL 33146

Bethesda MD 20814

USU Grant Number **HT9404-12-1-TS17**

USU Project Number **TSNRP Study N12-P17**

Title of Research Study or Evidence-Based Practice
(EBP) Project

**CPSP as a Mediator or Resiliency and Coping
Among Military Healthcare**

Period of Award **1 August 2012 – 31 July 2013**

Applicant Organization **University of Miami (FL)**

Address of Applicant Organization

5030 Brunson Drive, Coral Gables, FL 33146

Principal Investigator (PI) Military Contact Information

Duty Title

PhD Student, University of Miami (FL)

E-mail Address

chris.weidlich@us.army.mil

Signatures

PI Signature

Date

Mentor Signature

Date

Report Documentation Page		Form Approved OMB No. 0704-0188
Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.		
1. REPORT DATE 12 SEP 2013	2. REPORT TYPE Final	3. DATES COVERED 01 AUG 2012 - 31 JUL 2013
4. TITLE AND SUBTITLE CPSP as a Mediator or Resiliency and Coping among Military Healthcare		5a. CONTRACT NUMBER N/A
		5b. GRANT NUMBER HT9404-12-1-TS17
		5c. PROGRAM ELEMENT NUMBER N/A
6. AUTHOR(S) Weidlich, Christopher, PhD, RN, LTC, AN, USA		5d. PROJECT NUMBER N12-P17
		5e. TASK NUMBER N/A
		5f. WORK UNIT NUMBER N/A
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) University of Miami, 5030 Brunson Drive, Coral Gables, FL 33146		8. PERFORMING ORGANIZATION REPORT NUMBER N/A
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) TriService Nursing Research Program, 4301 Jones Bridge Rd, Bethesda, MD		10. SPONSOR/MONITOR'S ACRONYM(S) TSNRP
		11. SPONSOR/MONITOR'S REPORT NUMBER(S) N12-P17
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release, distribution unlimited		
13. SUPPLEMENTARY NOTES N/A		

14. ABSTRACT

Purpose: To update what is currently known about the resiliency, coping, and compassion fatigue of Army and Civilian Nurses, LPNs, and Medics who treat wounded Soldiers and whether these factors can be improved over a sustained period of time. **Design:** The study was a longitudinal, correlational, cohort, pilot study formulated to examine the impact of CPSP training on resiliency, coping and compassion fatigue over time (prior to CPSP training and 30-days post-training) in a population of Army and Civilian Nurses, LPNs, and Medics at Womack Army Medical Center (WAMC) at Fort Bragg, NC. **Methods:** A prospective cohort pilot study was implemented to investigate the long-term effects of resiliency training (CPSP) on Army and Civilian Nurses, LPNs, and Medics (n = 93) over two time points at Womack Army Medical Center. **Sample:** A convenience sample of 120 Army and Civilian Nurses, LPNs, and Medics attending CPSP training at WAMC between February 2013 and June 2013 was planned for the study. The sample size sought was 120, factoring in outliers (2%) and a 30% attrition rate, obtaining questionnaires from 81 participants. **Analysis:** T-tests and mixed ANOVAs were used to examine the results of the study and significance. **Findings:** CPSP training did not affect resiliency scores on the CD-RISC or coping scores as measured by the WCQ. CPSP was significant in reducing burnout as measured by the ProQOL questionnaire, leading to decreased compassion fatigue. **Conclusions:** Based on the results of this study, CPSP training was effective in reducing burnout, which leads to decreased compassion fatigue in a group of Army Nurses and Civilian, LPNs, and Medics. **Implications for Military Nursing:** The results of this study suggest CPSP is effective at reducing the level of burnout experienced by Army and Civilian Nurses, LPNs, and Medics. Coping skills and resiliency levels do not appear affected by CPSP training.

15. SUBJECT TERMS

resiliency, coping, and compassion fatigue, Fit and ready force

16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT SAR	18. NUMBER OF PAGES 15	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			

Abstract

Purpose: To update what is currently known about the resiliency, coping, and compassion fatigue of Army and Civilian Nurses, LPNs, and Medics who treat wounded Soldiers and whether these factors can be improved over a sustained period of time.

Design: The study was a longitudinal, correlational, cohort, pilot study formulated to examine the impact of CPSP training on resiliency, coping and compassion fatigue over time (prior to CPSP training and 30-days post-training) in a population of Army and Civilian Nurses, LPNs, and Medics at a major Army medical facility.

Methods: A prospective cohort pilot study was implemented to investigate the long-term effects of resiliency training (CPSP) on Army and Civilian Nurses, LPNs, and Medics ($n = 93$) over two time points at major Army medical facility.

Sample: A convenience sample of 120 Army and Civilian Nurses, LPNs, and Medics attending CPSP training at a major Army medical facility between February 2013 and June 2013 was planned for the study. The sample size sought was 120, factoring in outliers (2%) and a 30% attrition rate, obtaining questionnaires from 81 participants.

Analysis: T-tests and mixed ANOVAs were used to examine the results of the study and significance.

Findings: CPSP training did not affect resiliency scores on the CD-RISC or coping scores as measured by the WCQ. CPSP was significant in reducing burnout as measured by the ProQOL questionnaire, leading to decreased compassion fatigue. **Conclusions:** Based on the results of this study, CPSP training was effective in reducing burnout, which leads to decreased compassion fatigue in a group of Army Nurses and Civilian, LPNs, and Medics.

Implications for Military Nursing: The results of this study suggest CPSP is effective at reducing the level of burnout experienced by Army and Civilian Nurses, LPNs, and Medics. Coping skills and resiliency levels do not appear affected by CPSP training.

TSNRP Research Priorities that Study or Project Addresses**Primary Priority**

Force Health Protection:	☐ Fit and ready force ☐ Deploy with and care for the warrior ☐ Care for all entrusted to our care
Nursing Competencies and Practice:	☐ Patient outcomes ☐ Quality and safety ☐ Translate research into practice/evidence-based practice ☐ Clinical excellence ☐ Knowledge management ☐ Education and training
Leadership, Ethics, and Mentoring:	☐ Health policy ☐ Recruitment and retention ☐ Preparing tomorrow's leaders ☒ Care of the caregiver
Other:	☐

Secondary Priority

Force Health Protection:	☒ Fit and ready force ☐ Deploy with and care for the warrior ☒ Care for all entrusted to our care
Nursing Competencies and Practice:	☐ Patient outcomes ☐ Quality and safety ☐ Translate research into practice/evidence-based practice ☐ Clinical excellence ☐ Knowledge management ☐ Education and training
Leadership, Ethics, and Mentoring:	☐ Health policy ☐ Recruitment and retention ☐ Preparing tomorrow's leaders ☐ Care of the caregiver
Other:	☐

Progress Towards Achievement of Specific Aims of the Study or Project

Findings related to each specific aim, research or study questions, and/or hypothesis:

Specific Aim 1

Examine the impact of the CPSP training on resiliency, coping, and compassion fatigue in a sample of Army and Civilian Nurses, LPNs, and Medics.

Hypothesis 1a

Resiliency will significantly increase as measured by the Connor-Davidson Resilience Scale (CD-RISC) from just prior to receiving CPSP training to 30-days post-CPSP training.

The results of this study suggest that CPSP training appears to have no effect on resiliency scores as measured using the CD-RISC scale over the 30-day timeframe. The mean CPSP score from pre-CPSP training ($M = 74.46$, $SD = 12.47$) and 30 days post-CPSP training ($M = 74.54$, $SD = 17.93$) did not significantly change in the study ($n = 28$). Mean CD-RISC scores for the participants are: civilian nurses ($M = 76.86$, $SD = 12.02$, $n = 7$), LPNs ($M = 75.11$, $SD = 14.76$, $n = 9$), Army Nurse Corps Officers ($M = 74.00$, $SD = 31.18$, $n = 6$) and Army medics ($M = 71.5$, $SD = 14.90$, $n = 6$).

The mean scores of the Nurses, Medics and LPNs on the CD-RISC in this study were consistent with the scores from other research studies that utilized a population of U.S. Military personnel. Pietrzak and colleagues (2009) utilized the CD-RISC to explore resiliency levels in a population of Iraq and Afghanistan war veterans ($n = 272$) and observed a Mean Score of 73.8 ($SD = 16.1$) which is consistent with the scores in this study. Additionally, the mean scores of the nurses, medics and LPNs on the CD-RISC in this study were consistent with the scores from other studies that contained a population of nurses. Gabriel, Diefendorff, and Erickson (2011) utilized the CD-RISC on a sample of 57 nurses to measure accomplishment satisfaction and affect and observed a Mean Score of 66.49 ($SD = 13.42$) which is consistent with the scores in this study.

Hypothesis 1b

Coping levels will significantly increase as measured by the Ways of Coping Questionnaire (WCQ) from just prior to receiving CPSP training to 30-days post-CPSP training.

The results of this study suggest that CPSP training appears to have a small effect on coping scores as measured using the WCQ scale over the 30-day timeframe. Of the 8 coping factor subscales measured by the WCQ of Confrontive Coping, Distancing, Self-Controlling, Seeking Social Support, Accepting Responsibility, Escape-Avoidance, Planful Problem Solving, and Positive Reappraisal, only the subscale of Positive Reappraisal showed a significant change from pre-CPSP training to 30-days post-CPSP training ($p = .025$). Positive Reappraisal is defined as an individual's ability to create positive meaning from a situation by focusing on one's own personal growth (Folkman & Lazarus, 2010, p. 8). Neuman and Fawcett (2011) detail a phenomenon similar to positive appraisal as secondary prevention, where an individual protects himself or herself by strengthening their internal lines of resistance (p. 27). The Positive Reappraisal score in this study demonstrated a statistically significant decrease from prior to receiving CPSP ($M = 10.21$, $SD = 5.69$) to 30-days post CPSP training ($M = 8.18$, $SD = 5.05$, $p = 0.025$). A decrease in WCQ scores may indicate that the participants ($n = 28$) had a

decrease in stressful events during this timeframe as the instructions on the WCQ inform individuals to think of a stressful event over the previous week. It could also mean that an individual utilized a different method of coping.

Dirkzwager, Bramsen, and van der Ploeg (2003) utilized the WCQ to investigate PTSD in a group of Dutch Peacekeepers ($n = 499$) over time, which produced WCQ scores that are similar with this study with results including Positive Reappraisal mean scores of 11.36 ($SD = 3.46$). Additionally, Chang and colleagues (2007) explored cultural differences in how nurses ($n = 225$) cope with adversity utilizing the WCQ in New Zealand and Australia. The results produced similar scores to this study with New South Wales nurses reporting a Positive Reappraisal Mean of 8.55 ($SD = 3.68$) and New Zealand nurses reporting a mean of 9.02 ($SD = 3.74$) which produced similar mean scores to this study.

Hypothesis 1c

Compassion fatigue as measured by Professional Quality of Life (ProQOL) scale will decrease from just prior to receiving CPSP training to 30-Days post CPSP training.

The results of this study suggest that CPSP training has a positive effect on the ProQOL burnout subscale which decreased from pre-CPSP ($M = 28.71$ $SD = 4.09$) to ($M = 19.79$, $SD = 5.90$) 30-days post CPSP training ($F(1, 16) = 17.1$, $p < .001$). Secondary traumatic stress scores ($M = 19.25$, $SD = 5.10$) and the scores 30-days post CPSP training ($M = 20.14$, $SD = 5.55$) were not statistically significant ($t(27) = 1.32$, $p = .200$). Compassion satisfaction scores from prior to CPSP ($M = 39.64$, $SD = 7.58$) and the scores 30-days post CPSP training ($M = 39.18$, $SD = 9.25$) were not found to be not statistically significant ($t(27) = -.51$, $p = .618$).

According to Hudnall-Stamm and colleagues (2010), compassion fatigue is observed when there is an increase in burnout and secondary traumatic stress scores. The burnout scale is measured by a score of 22 or less having a low burnout level, between 23-41 as average burnout level, and a score of 42 or above as high burnout. By decreasing burnout in a population of Army nurses, LPNs, medics, including civilian and allied healthcare providers, a decrease in compassion fatigue may occur. The between-subjects effect of the burnout subscale did not show statistical significance between occupation, education level, or the interaction between burnout and jobs and education level.

Specific Aim 2

Explore the relationship among resiliency, coping, and compassion fatigue in a sample of Army Nurses, LPNs, and Medics.

The researcher in this study explored the relationship between resiliency scores using the CD-RISC, coping methods using the WCQ, and compassion fatigue and satisfaction among Army and Civilian Nurses, LPN, and Medics and demographic information, such as highest level of education and occupation, yielded no statistically significant results. There was no relationship between MOS, level of education, and deployment history in the study regarding resiliency scores as measured by the CD-RISC. Prior CPSP training did not appear to affect the scores of the CD-RISC.

The researcher in this study explored the relationship between coping scores using the WCQ to explore coping methods among Army and Civilian Nurses, LPN, and Medics and demographic information, such as highest level of education and occupation, yielded no statistically significant results. There was no relationship between MOS, level of education, and deployment history within the healthcare providers in coping scores as measured by the WCQ.

Prior CPSP training did not appear to affect the scores of the WCQ. A majority of the nurses in the study utilized the coping factors of self-controlling and positive reappraisal. Self-controlling is defined by Folkman and Lazarus (2010) as “efforts to regulate one's feelings and actions” and positive reappraisal as, “efforts to create positive meaning by focusing on personal growth” (p. 8).

ProQOL subscales among Army and Civilian Nurses, LPN, and Medics and demographic information, such as highest level of education and occupation, showed no statistically significant interaction between burnout and occupation or burnout and education level. The between-subjects effect of the burnout subscale did not show a statistical significance between occupation or education level. There was no statistical significance found in the interaction between burnout and jobs and education level.

Relationship of current findings to previous findings: The PI was unable to locate any previous studies that examined CPSP training over two time points.

Effect of problems or obstacles on the results: None

Limitations:

Based on the number of participants in this pilot study ($n = 93$) and the participants who returned questionnaires was small ($n = 28$), the biggest limitation of this study is the sample size. A larger sample of Army Nurses, LPNs and medics may yield different results. The study was conducted at a major Army medical facility over the spring of 2013 in a population of Army and Civilian Nurses, LPNs, and Medics. Because CPSP training occurs at various Army Medical Centers throughout the world, the results may not be generalizable civilian MTFs or to other installations due to instructors and instruction methods varying across locations. Due to sequestration and budget cuts within the Department of Defense, a hiring freeze was implemented during the data collection phase of this study. The hiring freeze led to small groups attending newcomer's orientation where a significant amount of data collection was to take place. Of the participants who volunteered for this study, several participants voiced concerns about potential furloughs being a concern to them. It is unclear how much of this stress contributed to individuals' scores on the CD-RISC, WCQ, or ProQOL. Future researchers could consider utilizing a mixed method study to gather the subjective feelings that the participants share.

Because CPSP is an annual requirement, many of the active duty Servicemembers at a major Army medical facility completed their CPSP training at the beginning of the Fiscal year (October 2012) and were not due to take CPSP training during the timeframe of this study. Because of this, much of the data collection occurred at outlying clinics. The outlying clinics contained a minimum staff of Active Duty Servicemembers, a significant portion of the participants were civilian who had not deployed to Iraq or Afghanistan. Based on the number of participants in this pilot study ($n = 93$) and the participants who returned questionnaires was small ($n = 28$), a larger sample of Army Nurses, LPNs and medics may yield different results. As additional surveys are returned, they will be added and presented in any future publications or dissemination of findings.

Conclusion

Based on the findings of this study, CPSP training decreases the burnout level in Army and Civilian Nurses, LPNs, and Medics, which may lead to a decrease in a healthcare provider's overall compassion fatigue. Resiliency and coping skills were not impacted by CPSP training utilizing the CD-RISC and WCQ in this study. Further researchers may want to consider ways to better define the term of resiliency, particularly compared to the interaction between coping skill development and compassion fatigue. It might be beneficial to recreate this study in a larger population of healthcare providers throughout the military at multiple installations to explore the concept of resiliency in greater numbers.

Finally, exploring ways to improve CPSP training in order to make it more effective in training healthcare providers may be beneficial. Small groups where healthcare providers actively participate may be more effective than large groups receiving the information by PowerPoint. By continually reassessing CPSP effectiveness and conducting additional studies, the healthcare providers are receiving the best possible information and skills to improve resiliency and coping skills to handle complex situations that are an everyday part of military life.

Significance of Study or Project Results to Military Nursing

Since this researcher focused on CPSP training at one military installation, the results may not be generalizable to other locations or services due to training methods of the particular individual conducting CPSP training. Regardless, the results of this study suggest CPSP is effective at reducing the level of burnout experienced by Army and Civilian Nurses, LPNs, and Medics. Coping skills and resiliency levels do not appear affected by CPSP training, it may be possible that coping skills and resiliency levels require a more active approach from individuals receiving the training. That is, for a person to change the way he or she copes in a certain situation, it may require that the people practice the coping techniques over an extended period of time. A repeat of this study with a larger sample size with multiple timeframes may be necessary.

Further military researchers may focus on expanding the scope of this study to several installations that provide CPSP training in order to determine if there is a difference in results due to individual teaching methods as well as the general effectiveness of the program within a larger population. Perhaps, conducting a mixed-method study as mentioned in the Neuman Systems Model to explore an individual attending CPSP training may yield greater input as to the effect the training may prove beneficial.

Additionally, CPSP training classes vary from a few individuals participating (4 or 5) up to over 100 military and civilian healthcare providers based on the venue requiring annual training. It may be that CPSP training is best presented in small group sizes with a focus on active participation to receive a better impact on the audience (Crosby, 1996). Since the researcher in this study recruited primarily Registered Nurses, Licensed Practical Nurses and Combat Medics, it may be beneficial that future research should focus on all Military Occupational Specialties (MOS) throughout the AMEDD to examine a broader population of military healthcare providers, including physicians and physician assistants.

Military leadership might be wise to remain proactive in improving the resiliency and coping levels in their Soldiers by commanders supporting CPSP training and ensure the Soldiers attend. It might be prudent for commands to continue to monitor Soldiers for the signs of burnout and fatigue. First line supervisors are key in discovering Soldiers who may be in need of additional support. The stigma that burnout and fatigue are a sign of weakness and requires mental healthcare still exists (Green-Shortridge, Britt, & Castro, 2007). It might be beneficial for leadership to continue to consider ways to dispel this stigma while promoting an environment where the command supports the emotional needs of the Soldier.

Changes in Clinical Practice, Leadership, Management, Education, Policy, and/or Military Doctrine that Resulted from Study or Project

None as of this time.

References Cited

- Chang, E. M., Bidewell, J. W., Huntington, A. D., Daly, J., Johnson, A., Wilson, H., et al. (2007). A survey of role stress, coping and health in Australian and New Zealand hospital nurses. *International Journal of Nursing Studies*, 44, 1354–1362.
- Connor, K. M., & Davidson, J. R. (2003). Development of a New Resilience Scale: The Connor-Davidson Resilience Scale. *Depression and Anxiety*, 18, 76-82.
- Crosby, J. (1996, September). AMEE medical education guide No. 8. *Medical Teacher*, 18(3), 189-203.
- Dirkzwager, A. J., Bramsen, I., & van der Ploeg, H. M. (2003). Social support, coping, life events, and posttraumatic stress symptoms among former peacekeepers: a prospective study. *Personality and Individual Differences*, 34, 1545–1559.
- Folkman, S., & Lazarus, R. S. (1988). *Ways of Coping Questionnaire Sampler Set: Manual, Test Booklet, Scoring Key*. Menlo Park, CA : Consulting Psychologists Press.
- Gabriel, A. S., Diefendorff, J. M., & Erickson, R. J. (2011). The Relations of Daily Task Accomplishment Satisfaction With Changes in Affect: A Multilevel Study in Nurses. *Journal of Applied Psychology*, 96(5), 1095–1104.
- Green-Shortridge, T. M., Britt, T. W., & Castro, C. A. (2007). The Stigma of Mental Health Problems in the Military. *Military Medicine*, 172(2), 157-161.
- Hudnall-Stamm, B., Blampied, S., Higson-Smith, C., Hudnall, A. C., Piland, N. F., & Stamm, H. E. (2010, November 30). *Professional Quality of Life Elements Theory and Measurement*. Retrieved May 11, 2012, from PQL.com: <http://www.proqol.org>
- Neuman, B., & Fawcett, J. (2011). *The Neuman Systems Model* (5th ed.). Upper Saddle River, NJ: Pearson.
- Pietrzak, R. H., Johnson, D. C., Goldstein, M. B., Malley, J. C., Rivers, A. J., Morgan, C. A., et al. (2010). Psychosocial buffers of traumatic stress, depressive symptoms, and psychosocial difficulties in veterans of Operations Enduring Freedom and Iraqi Freedom: The role of resilience, unit support, and postdeployment social support. *Journal of Affective Disorders*, 120, 188-192.

Summary of Dissemination

Type of Dissemination	Citation	Date and Source of Approval for Public Release
Poster Presentations	CPSP AS A MEDIATOR OF RESILIENCY AND COPING AMONG MILITARY HEALTHCARE PERSONNEL	Planned for the November 2013 AMSUS Conference

Reportable Outcomes

Reportable Outcome	Detailed Description
Applied for Patent	None
Issued a Patent	None
Developed a cell line	None
Developed a tissue or serum repository	None
Developed a data registry	None

Recruitment and Retention Table

Recruitment and Retention Aspect	Number
Subjects Projected in Grant Application	120
Subjects Available	
Subjects Contacted or Reached by Approved Recruitment Method	
Subjects Screened	97
Subjects Ineligible	
Subjects Refused	4
Human Subjects Consented	95
Subjects Who Withdrew	2
Subjects Who Completed Study	28
Subjects With Complete Data	28
Subjects with Incomplete Data	0

Demographic Characteristics of the Sample

Characteristic	
Age (yrs)	<i>M</i> = 41
Women, n (%)	67 (72%)
Race	
White, n (%)	54 (58%)
Black, n (%)	28 (30%)
Hispanic or Latino, n (%)	5 (5%)
Native Hawaiian or other Pacific Islander, n (%)	0 (0%)
Asian, n (%)	3 (3%)
Other, n (%)	2 (2%)
Military Service or Civilian	
Air Force, n (%)	0 (0%)
Army, n (%)	38 (41%)
Marine, n (%)	0 (0%)
Navy, n (%)	0 (0%)
Civilian, n (%)	55 (58%)
Service Component	
Active Duty, n (%)	38 (41%)
Reserve, n (%)	unknown
National Guard, n (%)	unknown
Retired Military, n (%)	unknown
Prior Military but not Retired, n (%)	unknown
Military Dependent, n (%)	unknown
Civilian, n (%)	55 (58%)

Final Budget Report