AD_____

Award Number: W81XWH-11-2-0153

TITLE: SupportNet for Frontline Behavioral Health Providers

PRINCIPAL INVESTIGATOR: Dr. Charles Benight

CONTRACTING ORGANIZATION: The University of Colorado
Colorado Springs, CO 80918

REPORT DATE: June 2012

TYPE OF REPORT: Annual

PREPARED FOR: U.S. Army Medical Research and Materiel Command
Fort Detrick, Maryland 21702-5012

DISTRIBUTION STATEMENT: Approved for Public Release;
Distribution Unlimited

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

1. REPORT DATE	**2. REPORT TYPE**	**3. DATES COVERED**
June 2012	Annual	15 Jun 2011 - 14 Jun 2012

4. TITLE AND SUBTITLE

SupportNet for Frontline Behavioral Health Providers

5a. CONTRACT NUMBER

5b. GRANT NUMBER
W81XWH-11-2-0153

5c. PROGRAM ELEMENT NUMBER

6. AUTHOR(S)
Valerie Anderson, Charles Benight, Judith Bock, Roman Cieslak, Kotaro Shoji

E-Mail: benight@uccs.edu

5d. PROJECT NUMBER

5e. TASK NUMBER

5f. WORK UNIT NUMBER

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)

The University of Colorado

Colorado Springs, CO 80918-3733

8. PERFORMING ORGANIZATION REPORT NUMBER

9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES)
U.S. Army Medical Research and Materiel Command
Fort Detrick, Maryland 21702-5012

10. SPONSOR/MONITOR'S ACRONYM(S)

11. SPONSOR/MONITOR'S REPORT NUMBER(S)

12. DISTRIBUTION / AVAILABILITY STATEMENT
Approved for Public Release; Distribution Unlimited

13. SUPPLEMENTARY NOTES

14. ABSTRACT

SupportNet aims to assess the level of secondary trauma among military behavioral health providers and to provide a pilot support system for providers working at Ft. Carson, Colorado. In the first year of the project, researchers completed a study of 224 existing behavioral health providers, including those at Ft. Carson, to assess levels of secondary traumatic stress. Preliminary results suggest there is significant prevalence of secondary traumatic stress (STS) and burnout among behavioral health providers working with combat-trauma survivors.

Secondary trauma is a serious issue and occurs when caretakers are continually exposed to extensive traumatic material on an on-going basis. Symptoms of secondary trauma are similar to Posttraumatic Stress Disorder and can influence ability to engage in the therapeutic process with clients, irritability, and emotional numbing. Secondary traumatization may also lead to severe burnout and turnover.

15. SUBJECT TERMS
Secondary traumatic stress, compassion fatigue, job stress, burnout, behavioral health providers, combat trauma.

16. SECURITY CLASSIFICATION OF: U			**17. LIMITATION OF ABSTRACT**	**18. NUMBER OF PAGES**	**19a. NAME OF RESPONSIBLE PERSON**
a. REPORT	**b. ABSTRACT**	**c. THIS PAGE**			USAMRMC
U	U	U	UU	243	**19b. TELEPHONE NUMBER** *(include area code)*

Table of Contents

BODY:

The following are the three objectives for the SupportNet project. These are being provided here in order to reference the objective(s) supported by the accomplishment for each of the Research and Project Management Accomplishments listed.

Objective 1: We will conduct an initial needs assessment to determine the level of secondary trauma and burnout in military mental health providers from U.S. Army Posts around the country in order to establish prevalence rates for secondary trauma, burnout, and compassion fatigue in military mental health providers.

Objective 2: We will evaluate the utility of social cognitive theory as a framework for understanding the stress process for military mental health providers by using a quantitative evaluation of coping self-efficacy to predict negative outcomes for military mental health providers.

Objective 3: We will develop and evaluate a theoretically based support system called SupportNet to empower behavioral health providers in developing critical self-assessment skills, self-regulatory abilities, and support seeking capacities and will test the system's effectiveness by completing a randomized controlled trial and a program and process evaluation.

Research accomplishments

a) *We have reviewed the literature on secondary traumatic stress and job burnout and their predictors (see Objective 1).*

The theoretical framework for the SupportNet study is rooted within the Job Demands-Resources model (Bakker & Demerouti, 2007). This model explains how job demands and resources independently and in the interaction with each other may predict negative and positive work-related well-being outcomes, such as job burnout and work engagement. We applied this model to the population of behavioral health providers working with the military trauma. One of the many advantages of the JD-R model refers to the fact that all key components of this model (job demands, resources, and health/well-being) should be adjusted to the specificity of work tasks, work environment, and the type of investigated group of workers. Following these requirements we identified work stressors and indirect exposure to trauma as the key components of mental health providers' job demands. Social support and self-efficacy were indicated as the psychosocial resources, with self-efficacy acting as a mediating factor. Those demands and resources are considered as critical predictors of the following outcomes: job burnout, work engagement, secondary traumatic stress, and secondary posttraumatic growth. The theoretical model is presented in Exhibit 1 (found in the section labeled Supporting Data).

The review chapter on the role of social support in coping with stress was prepared and submitted (see Appendix I).

We are currently preparing a publication of a meta-analysis on the relationship between secondary traumatic stress and job burnout. Out of 337 identified studies, the inclusion criteria were met by 41 papers. The preliminary results and the list of references are presented in Exhibit 2. At the current stage, the results show that there is a strong relationship between secondary traumatic stress and job burnout (r = .72) and that this effect is moderated by the type of the measure used for secondary trauma assessment

(compassion fatigue vs. scales based on PTSD symptomatology), by the type of the job burnout measure (ProQOL vs MBI and other similar scales), by the region of data collection (North America versus other countries). Type of the occupation did not moderate the relationship between job burnout and secondary traumatic stress.

We are also drafting a review chapter on professional burnout that will be submitted by the end of July to the book provisionally entitled "Military Psychologists' Desk Reference". The book will be edited by Bret A. Moore and Jeffrey E. Barnett and published by Oxford University Press.

b) *We have analyzed and used existing data on secondary traumatic stress and job burnout (see Objective 1).*

Before Time 1 data collection in the SupportNet study was completed, the existing data from a previous study utilizing similar theoretical model was reanalyzed. Results were presented by a doctoral student (not employed in the SupportNet project) at the conference of the European Academy of Occupational Health Psychology. Drs. Cieslak and Benight were co-authors of this presentation entitled "Perceived social support moderates the mediating effect of job burnout on the relationship between secondary traumatic stress and work engagement" (see Appendix II).

c) *We have taken action to mobilize researchers across the world to publish their results in a special issue of the APA journal, "Psychological Services" (see Objective 1).*

Dr. Lisa Kearney, Associate Editor of the APA journal "Psychological Services" together with Drs. Bret Moore, Jeffrey Burk, and two Support Net Project leaders Charles Benight and Roman Cieslak initiated a special section on secondary trauma and job burnout. A call for manuscripts is presented in Appendix III.

d) *We have reviewed the literature regarding available military programs for compassion fatigue and resiliency, non-military web-based interventions, and evaluation models for web-based intervention designs (Objective 1).*

The web design literature review draft is attached in Appendix IV.

e) *Our external program evaluator has reviewed the literature on evaluation models pertinent to interventions for mental health caregivers in both the process and outcome domains in general and with military populations in specific (Objective 2).*

A draft paper on the topic is attached as Appendix V.

f) *Time 1 and Time 2 surveys were designed and Internet versions of the surveys were prepared (see Objective 1, 2, and 3).*

After consulting with mental health providers, external evaluator (Dr. Robert Durham), and extended research team (Drs. Alan Peterson and Bret Moore), the following list of measures were used for Time 1 and Time 2 surveys (see Appendices VI and VII, respectively):

- ICAWS, Interpersonal Conflict at Work Scale (Spector & Jex, 1998), 4 original items, plus 1 new item;
- OCS, Organizational Constraints Scale, (Spector & Jex, 1998), 11 items, plus 1 new item;

- QWI, Quantitative Workload Inventory (Spector & Jex, 1998), 5 original items;
- STES, Secondary Trauma Exposure Scale, 10 items plus 5, (Benight & Cieslak, unpublished);
- RCS, Regressive Coping Scale, developed by C. Benight to measure behavioral component of coping with stress, 25 items;
- MSPSS, Multidimensional Scale of Perceived Social Support (Zimet, Dehlem, Zimet, & Farley, 1988), 12 items;
- QPSNordic – two subscales to measure support from supervisors and coworkers (Wännström, Peterson, Åsberg, Nygren, & Gustavsson, 2009), 5 items;
- WSBMSES, Work Stress and Burnout Management Self-Efficacy Scale (Lua, Cieslak, & Benight, unpublished), 28 items;
- STSES, Secondary Trauma Self-Efficacy Scale (Cieslak & Benight, unpublished), 9 items;
- STSS, Secondary Traumatic Stress Scale (Bride, Robinson, Yegidis, & Figley, 2004), 17 items (intrusion, avoidance, and arousal symptoms associated with indirect exposure);
- OLBI, Oldenburg Burnout Inventory, (Halbesleben & Demerouti, 2005), 16 items (exhaustion and disengagement);
- PTCI, Post-traumatic Cognitions Inventory (Foa, Ehlers, Clark, Tolin, & Orsill, 1999), 14 selected items;
- PTGI-SF, Posttraumatic Growth Inventory – Short Form (Cann, Calhoun, Tedeschi, Taku, Vishnievsky, Triplett, & Danhauer , 2010), 10 items;
- UWES, Utrecht Work Engagement Scale (Schaufeli, Bakker, & Salanova, 2006), 9 items.

g) *The participants for the Time 1 survey were recruited (see Objectives 1, 2, and 3).*

Data were collected by means of the online survey. An e-mail with information about the SupportNet study and a link to the survey was sent to on-post and off-post behavioral health providers working with military patients. The off-post providers (i.e., located in the civilian community) received an invitation to the study through an online newsletter sent by TriWest Healthcare Alliance, an organization that manages health benefits for military patients and their families. The on-post providers (i.e., working within military installations) were contacted by e-mail sent by the director of the Department of Behavioral Health at Evans Army Community Hospital at Fort Carson, CO and by the Psychology Consultant to the U.S. Army Surgeon General.

Of 339 participants who initially consented to the study, 224 (66%) met the inclusion criteria (i.e., working at least one year as a clinical psychologist, counselor, or social worker; providing services for a military population; being indirectly exposed to trauma through work with patients) and completed the survey. The average age was 48.92 (SD = 13.04) years and the average length of work experience was 16.40 (SD = 10.42) years. The participants were predominantly women (67%), with doctorate (54%) or master's

degrees (46%), working full-time (78%) or part-time (22%) as clinical psychologists (45%), counselors (31%) or social workers (23%). Slightly more than a half of the sample was serving as on-post (57%) and the rest as off-post (43%) behavioral health providers. The sample was almost equally split between those who did and did not have any military experience (44% and 56%, respectively). One fifth of the sample (19%) had deployed to a combat zone at least once. They reported utilizing combinations of various therapeutic approaches with a majority reporting the use of Cognitive Behavioral Therapy (CBT, 90%), followed by Cognitive Processing Therapy (CPT, 42%), Prolonged Exposure (PE, 30%), and Eye Movement Desensitization and Reprocessing (EMDR, 29%).

h) *Time 1 data cleaning and preliminary analysis have been completed (see Objectives 1 and 2).*

The preliminary analysis on the prevalence rates and correlates of secondary traumatic stress among behavioral health providers working with the military was presented in a manuscript submitted to the Journal of Mental and Nervous Disease. Additionally, in the same paper, severity of secondary traumatic stress was compared to other groups using meta-analytical approach (see Appendix VIII).

Preliminary analyses were also performed to test relationships between other variables on subsamples of the main data set from Time 1 survey. Based on these analyses, SupportNet team with the cooperating students prepared and submitted several conference presentations for the annual conference of the International Society for Traumatic Stress Studies which will held in November, 2012. (See Appendix IX).

i) *Time 2 data collection has begun in June, 2012 (see Objective 1, 2, and 3).*

Time 2 data collection has begun as planned. Each participant that consented to the study at Time 1 and provided a valid e-mail address is being contacted after 6 month from completing Time 1 survey and receives a query about participating in Time 2 survey.

j) *We have developed an intervention model (Objective 3) that identifies key functional areas for improving self-regulatory abilities (using mindfulness, stress reduction, and self-efficacy skills enhancement) and social support (both personal and professional).*

The intervention design and rationale was presented at the American Telemedicine Association Conference in April 2012. The poster and handouts are attached in Exhibit 3.

k) *Completed the functional requirements and system architecture specification for BlueSun, Inc., the proposed subcontractor (Objective 3).*

The Scope of Work and Support Agreement that will form the basis of the development contract are under final review. The Functional Requirements document is attached as Appendix X.

l) *Evaluated technology platforms for use in the Internet portion of the intervention (Objective 3).*

Platforms evaluated include: LifeGuide (funded by the UK Economic and Social Research Council, as a part of their national Digital Social Research program) which is a web-based platform for researchers to design and test interventions; existing social

networking platforms such as LinkedIn and Google+; and the Communifire social networking platform from Axero Solutions.

Project management accomplishments

m) Hired and trained 4 new staff (Objectives 1, 2 & 3). Roman Cieslak, Ph.D. was hired in October 2011 for the position of Research Director. Judith Bock, PsyD was hired in September 2011 for the position of Clinical Therapist. In November 2011, Valerie Anderson, PsyD was hired for the position of Clinical Director. Kotaro Shoji, Ph.D. was hired in June 2012 for the position of Research Associate.

n) Developed the external evaluation component of the program, including hiring Robert Durham, PhD, an Associate Professor of Psychology at UCCS, to lead the evaluation team, and graduate research assistant Marissa Teel.

o) Purchased computer equipment, including 4 laptops with docking stations and monitors, 1 desktop computer with monitor, and 1 external hard drive. In addition, statistical and project management software was purchased to perform multivariable statistical analysis, structural equation modeling, and meta-analysis. The software includes SPSS, SPSS Amos, and Comprehensive Meta-Analysis for statistical analysis and Microsoft Project and APA Tools for project management (Objectives 2 & 3).

p) In September 2011, we received human research approval from the UCCS Institutional Research Board (IRB) and approval from the Human Research Protection Office (HRPO), Headquarters, US Army Medical Research and Material Command at Fort Detrick, Maryland (Objective 1). In December 2011, we submitted a major revision to our methodology and received these boards' approvals. In addition, we have also submitted two addendums in order to add new team members to the study and to make minor changes to the survey.

q) A briefing to Fort Carson's Evans Army Community Hospital management was provided in March 2012 to update these stakeholders on accomplishments and objectives of the project (Objective 1). This briefing is included as Appendix XI.

r) A briefing to Triwest management was provided in April 2012 in order to provide them with feedback about the survey (Objective 1). Triwest was a valuable resource for getting the invitation to participate in the survey out to the off-post/community providers in the western states. (See Appendix XII)

s) As a result of findings during the Time 1, we explored the possibility of expanding the SupportNet project to other military populations such as chaplains (Objective 1). In June 2012, a briefing to Chaplain Corps leadership from Fort Carson was provided. (See Appendix XIII)

t) The first Focus Group meeting with Fort Carson providers was held in June 2012 (Objective 3). A group of 13 on-post providers across a broad range of job functions was recruited to participate in the design of the intervention (See Appendix IV)

Recommended Changes and Future Work

To date, the SupportNet research team does not have any recommended changes to the scope of this research. However, there is an area for future work that the team is exploring now with officials from Ft. Carson. The team has met twice with members of the Chaplain Corps

(4th Infantry Division and Ft. Carson Garrison Command) to discuss whether the chaplains should be included in the study, as our literature review and informal interviews indicate that the chaplaincy may be at higher risk for secondary trauma and burnout.

We have requested permission to proceed with a pilot study at Ft. Carson with the chaplains on base as well as those assigned to the 4th Infantry Division and are awaiting a decision from Ft. Carson leadership about this study. If we receive permission, we will request a modification to the SupportNet human research protocol to conduct a secondary traumatic stress assessment with these personnel. Should this assessment indicate the need for secondary traumatic stress prevention and/or intervention assistance, the SupportNet team will seek funding to develop an appropriate program.

KEY RESEARCH ACCOMPLISHMENTS:

a) We have reviewed the literature on secondary traumatic stress and job burnout and their predictors.

b) We have analyzed and used existing data on secondary traumatic stress and job burnout.

c) We have taken action to mobilize researchers across the world to publish their results in a special issue of the APA journal, "Psychological Services".

d) We have reviewed the literature regarding available military programs for compassion fatigue and resiliency, non-military web-based interventions, and evaluation models for web-based intervention designs.

e) Our external program evaluator has reviewed the literature on evaluation models pertinent to interventions for mental health caregivers in both the process and outcome domains in general and with military populations in specific.

f) Time 1 and Time 2 surveys were designed and internet versions of the surveys were prepared.

g) The participants for the Time 1 survey were recruited.

h) Time 1 data cleaning and preliminary analysis have been completed.

i) Time 2 data collection has begun in June, 2012.

j) We have developed an intervention model that identifies key functional areas for improving self-regulatory abilities (using mindfulness, stress reduction, and self-efficacy skills enhancement) and social support (both personal and professional).

k) Completed the functional requirements and system architecture specification for BlueSun, Inc., the proposed subcontractor.

l) Evaluated technology platforms for use in the internet portion of the intervention.

REPORTABLE OUTCOMES:

There are no reportable outcomes for the project at this stage. However, several publications and are underway or planned as are presentations at national conferences.

CONCLUSION:

The first year of SupportNet has gone quite well. We have met our first year milestones and have significant findings to report to the scientific community. We have begun intervention design and are pleased with the response to our work at Ft. Carson. The additional research partners that have joined our project have improved its scope and have allowed us to reach military therapists around the world with the needs assessment. Our proposed future work with chaplains appears to be a promising addition to this research effort.

REFERENCES:

Bakker, A. B., & Demerouti, E. (2007). The Job Demands-Resources model: state of the art. *Journal of Managerial Psychology*, *22*(3), 309–328. doi:10.1108/02683940710733115

Bride, B. E., Robinson, M. M., Yegidis, B., & Figley, C. R. (2004). Development and Validation of the Secondary Traumatic Stress Scale. *Research on Social Work Practice*, *14*(1), 27 – 35. doi:10.1177/1049731503254106

Cann, A., Calhoun, L. G., Tedeschi, R. G., Taku, K., Vishnevsky, T., Triplett, K. N., & Danhauer, S. C. (2010). A short form of the Posttraumatic Growth Inventory. *Anxiety, Stress & Coping*, *23*, 127–137. doi:10.1080/10615800903094273

Foa, E. B., Ehlers, A., Clark, D. M., Tolin, D. F., & Orsillo, S. M. (1999). The Posttraumatic Cognitions Inventory (PTCI): Development and validation. *Psychological Assessment*, *11*(3), 303–314. doi:10.1037/1040-3590.11.3.303

Halbesleben, J. R. B., & Demerouti, E. (2005). The construct validity of an alternative measure of burnout: Investigating the English translation of the Oldenburg Burnout Inventory. *Work & Stress*, *19*, 208–220. doi:10.1080/02678370500340728

Schaufeli, W. B., Bakker, A. B., & Salanova, M. (2006). The Measurement of Work Engagement With a Short Questionnaire. *Educational and Psychological Measurement*, *66*(4), 701 –716. doi:10.1177/0013164405282471

Spector, P. E., & Jex, S. M. (1998). Development of four self-report measures of job stressors and strain: Interpersonal Conflict at Work Scale, Organizational Constraints Scale, Quantitative Workload Inventory, and Physical Symptoms Inventory. *Journal of Occupational Health Psychology*, *3*, 356–367. doi:10.1037/1076-8998.3.4.356

Wännström, I., Peterson, U., Åsberg, M., Nygren, Å., & Gustavsson, J. P. (2009). Psychometric properties of scales in the General Nordic Questionnaire for Psychological and Social Factors at Work (QPSNordic): Confirmatory factor analysis and prediction of certified long-term sickness absence. *Scandinavian Journal of Psychology*, *50*(3), 231–244. doi:10.1111/j.1467-9450.2008.00697.x

Zimet, G. D., Dahlem, N. W., Zimet, S. G., & Farley, G. K. (1988). The Multidimensional Scale of Perceived Social Support. *Journal of Personality Assessment*, *52*(1), 30.

APPENDICES:

Appendix I:	Manuscript, "*Social Support in Times of Economic Stress*"
Appendix II:	Conference Abstract, *Perceived social support moderates the mediating effect of job burnout on the relationship between secondary traumatic stress and work engagement*.
Appendix III:	*Secondary Trauma and Burnout, Open Call for Manuscripts*
Appendix IV:	Manuscript, *Web Intervention Design Issues*
Appendix V:	Manuscript, *SupportNet Evaluation Literature Review*
Appendix VI:	Time 1 Survey
Appendix VI:	Time 2 Survey
Appendix VIII:	Manuscript, *Secondary Traumatic Stress among Mental Health Providers Working with the Military: Prevalence and its Work- and Exposure-Related Correlates*
Appendix IX:	Proposed Conference Submissions, *Annual Meeting of the International Society for Traumatic Stress Studies, Los Angeles, November, 2012*
Appendix X:	Functional Requirements Document
Appendix XI:	SupportNet Briefing at Ft. Carson
Appendix XII:	Triwest Management Briefing
Appendix XIII:	Chaplains' Briefing

Appendix I

Social Support in Times of Economic Stress

Ewelina Smoktunowicz

Department of Psychology, Warsaw School of Social Sciences and Humanities, Warsaw, Poland

Roman Cieslak

Trauma, Health, and Hazards Center, University of Colorado at Colorado Springs and

Department of Psychology, Warsaw School of Social Sciences and Humanities, Warsaw, Poland

Charles C. Benight

Psychology Department and Trauma, Health, and Hazards Center, University of Colorado at Colorado Springs

Author Note

Paper was supported by grant 1395/B/H03/2009/37 from the Polish Ministry of Science and Higher Education and by grant W81XWH-11-2-0153 awarded by the US Army Medical Research and Materiel Command, Telemedicine & Advanced Technology Research Center (TATRC).

Correspondence concerning this article should be addressed to Roman Cieslak, Ph.D., Trauma, Health, and Hazards Center, University of Colorado at Colorado Springs, 1861 Austin Bluffs Parkway, Colorado Springs, CO, 80819, rcieslak@uccs.edu

Breakout of financial crisis in 2008 generated a number of questions, including those about its psychological consequences. Economic meltdown means factual losses for individuals (e.g. job loss), threats of such losses in the future (e.g. job insecurity) as well as potential failure to gain certain resources (e.g. insecurity of previously expected promotion at work). In this chapter we focus on these three sources of economic stress as conceptualized in the Conservation of Resources theory (COR; Hobfoll, 1998). We posit that confrontation with actual or potential loss of resources drives an individual to compensate with other resources. One of those is social support. We review existing literature in order to demonstrate different outlooks on the role that social support might play when individuals are faced with economic stress. We also go beyond effects of global financial meltdowns because economic stress can affect individuals not only under such spectacular circumstances as those that began in 2008, but also on daily basis and when people are confronted with traumatic events.

Theoretical Perspectives

Economic Stress from a COR Theory Perspective

In line with COR theory, stress - including economic challenges - can be induced by actual loss of resources, threat of losing or of not gaining resources after personal investment of energies (Hobfoll, 1998). The global economic crisis has the potential to generate all three of these stress sources. Loss of goods such as houses, cars, jobs is a straightforward source of stress. However, financial meltdowns receive such massive media coverage that it is difficult for an individual, who did not suffer directly from the crisis, to not at least consider the possible loss of various resources, such as employment or, potentially, one's life savings. At the same time another stress-inducing factor is the anticipation of not gaining previously expected resources due to the crisis, such as a promotion, opportunity for travel, or retirement.

Economic pressure or economic stress is conceptualized as struggling to afford basic products, pay the bills or as a necessity to limit certain expenses (Conger, Rueter, & Elder, 1999), but also as being unable to afford some modest 'extras', such as dinner out or a movie (Mistry, Lowe, Benner, & Chien, 2008). It can also mean making other sacrifices such as looking for additional employment or identifying sources to borrow money (Simons, Lorenz, Wu, & Conger, 1993). Therefore, economic stress does not refer only to a certain, objectively defined, level of poverty, but might be induced by any reduction in economic-related resources. The array of resources that are potentially affected might be anything from money to a house or to having a feeling of financial independence (Unal-Karaguven, 2009).

Why is money so important? Although seeming to be a rhetorical question, on a very basic level money allows individuals to buy things that are crucial to survive, such as food, warm clothing, place to live. However, money represents much more. In their article, Zhou and Gao (2008) posit that money is associated with sense of physical and psychological security. This is generated from the fact that money not only allows for purchase of products (cars, houses etc.), but also allows for a host of other benefits (e.g. private education to increase future employability, better health care). Another aspect related to financial resources is that people generally expect that over time they will get more of it, rather than less (e.g., will get promoted at work or inherit a house from their parents). Therefore, it is easy to observe how anticipation of loss of money combined with the possibility of not obtaining the increase in income one anticipates induces economic pressures (i.e., economic stress). Zhou and Gao (2008) posit that money is a general stress buffer and pursuing it is motivated by the need to gain (or regain) a sense of security. One way of obtaining money and other financial resources during a time of economic stress is to turn to social networks for assistance and support.

Social Support

Social support is sometimes referred to as meta-construct (Cheng, Chen, & LuoKogang, 2008) or as an umbrella term (House, Umberson, & Landis, 1988) due to the fact that there are many meanings subsumed by the term. One of the approaches to define social support is to look at the functions that social support might play. Traditionally three types of social support are identified. The first one is instrumental support, which refers to providing help in a tangible form. This can be money, but also material objects (such as equipment, clothes, food) or services (such as cleaning or shopping for groceries). The second kind of support is called informational support which refers to providing help in the form of necessary or useful knowledge. Finally, emotional support which relates to displaying interest, friendship and caring about a person in need (Schwarzer & Knoll, 2007).

Another important distinction is between received and perceived social support: "In a nutshell, received support is helping behavior that did happen, and perceived support is helping behavior that might happen" (Norris & Kaniasty, 1996, p. 498). Received support then directly targets actual help someone obtains from others and perceived support captures an individual's belief that help will become available once needed. Perceived social support is considered almost uniformly beneficial, leading to positive outcomes – such as better mental health, well-being – directly or by buffering negative effects of stress on those outcomes (Cohen & Wills, 1985; Luszczynska & Cieslak, 2005).

The direct effect, called the main effect model (Cohen & Wills, 1985), refers to the beneficial impact of perceived social support on given outcomes in the absence of stress. Authors posit that it is the certain level of embeddedness in a social network that positively affects physical and mental health. The buffering effect, on the other hand, refers to social support as a

resource that might intervene in the stress – outcomes process at two stages. First, it can prevent stress reactions from occurring when an individual confronted with a stress-inducing factor perceives social support as an available resource. Second, if the stress reaction is already induced by a stressor, social support might reduce its negative effects on given outcomes.

Kaniasty and Norris (1993) proposed that social support might also act as a mediator as demonstrated in the Social Support Deterioration Model. According to this model, traumatic stress leads first to mobilization of support, however, with time, that mobilized and received support eventually diminishes or turns out to be inadequate. That ultimately causes the deterioration of support that is perceived. In other words, perception of availability of social support diminishes. According to the authors there is a number of reasons why initial mobilization of support ceases to be helpful at certain point. First of all, stress factors may persist for such a long time that eventually there are no supportive resources left. Moreover, help provided might not be what suffering individuals actually need; it can come from untrusted or toxic sources, (Norris & Kaniasty, 1996).

Therefore, it seems that received social support, although not as influential in predicting outcomes during stress, is nevertheless crucial for shaping the overall perception of social support availability. In the newer version of the model, called Social Support Deterioration Deterrence Model, Norris and Kaniasty (1996) advocate that mobilization of social support in times of traumatic stress (e.g. natural disasters) is a key process that limits the deterioration of perceived social support and thus reduces the negative impact of the disaster on outcomes such as mental health. Although this effect in the mentioned studies was not big, it nevertheless points out to processes that should get reinforced not only directly after the disaster but also after the events causing material loss. These results were confirmed in meta-analysis by Prati and

Pietrantoni (2010). Enhancing help and making sure that this help is consistently provided accounts for an increase in perceived social support, which in turn, might buffer negative stress effects.

Norris and Kaniasty carried out their studies in the context of traumatic stress following natural disasters. However, in our own study (in preparation) we tested the Social Support Deterioration Deterrence Model in the context of stress at work. The results were in line with the model by demonstrating that organizational stress led to decreased work engagement indirectly via deterioration of perceived social support.

Based on these findings we posit that similar results are to be found in case of economic stress. This kind of stress can be either acute or chronic (Peirce, Frone, Russell, & Cooper, 1996) and can be expected to be experienced on a daily basis as long as the loss or threat of losing financial resources remains.

Based on the literature reviewed one can expect to find a number of hypothesized outcomes when looking at financial stress and social support. These are reviewed next.

First, perceived social support might diminish the salience and importance of stress inducing factors related to the financial crisis (e.g. media information about crisis, layoffs at work) and thus prevent stress from surfacing. However, if the stress is already present, perceived social support might moderate its negative consequences. These two possible scenarios are in line with buffering effect.

According to model by Kaniasty and Norris, on the other hand, initial mobilization of support in times of economic pressure (e.g., asking friends and family for loan, benefiting from social network to find a new job) might eventually turn out to be insufficient and lead to

decreased perception of social support and effectively result in outcomes negative for physical and psychological well-being.

In the next section of this chapter we will review existing studies on various types of social support in the context of economic stress.

Literature Review: Social Support and Economic Stress

There are a number of possible consequences of economic meltdown. Loss of resources might affect many areas of an individual's life. The aim of the current review is to demonstrate different relationships among economic stress, social support and a number of outcome variables. These relationships rely greatly on the type of support that is taken into account, demographics of the sample in the study and, of course, the dependent variables. In this review we focus on three different detrimental effects of economic stress. First we review studies that refer to effect of economic stress on physical and psychological health (including addictions). Second, we review information related to the effect on family life (mainly parental behaviors). And third, we look at the impact on work-related outcomes, namely unemployment and job insecurity.

Physical and Psychological Health

Hobfoll, Johnson, Ennis, and Jackson (2003) demonstrated in their study carried out among inner city women that economic stress – defined as loss of material resources – leads to psychological outcomes like depression and anger both directly and indirectly. The indirect effect is based on changes in internal and external resources, such as mastery and social support. These results are in line with Social Support Deterioration Deterrence Model. As Hobfoll et al. (2003) emphasized, the important implication here is that initial loss of resources, specifically a material one, can only be a beginning, augmenting subsequent losses of other resources. Due to

the fact that these other resources (social support, self-efficacy) would normally be used to cope with the loss of specific material resources, their loss is more profound. In the spiral of losses, money ceases to be just money and turns into a problem of lack of security, self-confidence and other, highly valuable social resources.

Another study that focused on the impact of economic stress on health, namely alcohol addiction, was conducted by Peirce et al. (1996). Authors argued that persistent economic stress can lead to alcohol involvement as a way of coping. Authors considered social support to act in two ways. First of all, based on previous research (see Peirce et al., 1996 for review) they expected this resource to be negatively related to alcohol involvement. Secondly, it was hypothesized to moderate the relationship between economic stress (or financial one as authors name it) and alcohol involvement. In other words, authors of this study expected to receive results in line with a main effect and buffering models of social support. Chronic and acute economic stress were taken into account and three types of perceived social support were measured: tangible (i.e. instrumental), appraisal support (having someone to trust and rely on advice) and belonging support (availability of social network). Alcohol involvement was also operationalized as three dimensions: drinking to cope, specific alcohol problems, and heavy drinking.

The main effect model was supported for belonging support and tangible support which turned out to be negatively related to drinking to cope and alcohol problems, respectively. Appraisal support was, on the other hand, positively related to alcohol problems. Regarding the buffering effect, only tangible support was found to be related to chronic and acute financial stress. In both cases, participants experiencing high economic stress and who perceived high tangible support demonstrated less alcohol problems and heavy drinking than those with low

levels of this type of social support. However, in comparison there was a positive relationship between economic stress and the drinking to cope dimension when belonging support was high.

Results of this study indicate that specific operationalization of social support is crucial for drawing accurate conclusions regarding its role in coping with economic stress. Whereas it is hardly surprising that material aid buffered negative effects of stress related to the individual's economic situation on alcohol involvement, it is surprising that appraisal and belonging support remain unrelated or even positively related to this outcome.

Research by Krause, Liang, and Gu (1998) brings yet another outlook of relationships among economic stress, social support and health. Variables taken into account in this work were economic stress, economic social support, measured separately as anticipated and received support, and symptoms of depression. The sample consisted of older citizens in the People's Republic of China. Received economic support did not buffer the impact of economic stress on depressive symptoms among participants. It is important to note, that participants emphasized that they sought support from very close family members. Thus, the lack of buffering effect was interpreted by the authors as evidence that relying on family members for support might induce a sense of being a burden to them. On the other hand, anticipating help when in need did not have such negative connotations and therefore buffered the effect of economic stress on depressive symptoms.

Results of these studies indicate that instrumental support may be crucial when it comes to economic stress, yet only the perceived availability of support serves as a buffer against this type of stress. It needs to be added though, that in the study by Peirce et al. (1996) received support was not taken into account. Therefore, it remains to be tested then whether this failure of

instrumental received support as a buffer for economic stress could be accounted for by cultural difference between American and Chinese samples.

Different hypotheses were held by Chou, Chi, and Chow (2004) in their study on older adults in Hong Kong. The authors expected that Chinese older adults would take pride in the fact that their grown children were able to support them and that this would lead to decrease in depressive symptoms. Decreased depressive symptoms were also anticipated for individuals who were financially independent, for example due to income from investment or pension funds. Alternatively, it was hypothesized that having to rely on welfare would increase depressive symptoms. Interestingly, one of the aims in this study was to test whether social support would act as a moderator (buffer) or mediator between various types of income (e.g., adult children, welfare, financial independence) and depressive symptoms. Social support measured in this study was tangible support received from family members.

Full mediation effect of social support emerged between financial independence and depressive symptoms. Higher financial independence led to lower family social support and that support was significantly and negatively correlated to depressive symptoms. As for two other sources of income, social support emerged as partial mediator. Children as a source of income led to higher family support and that was significantly and negatively correlated with depressive symptoms. Welfare, on the other hand, led to lower family support and that again was significantly and negatively correlated with depressive symptoms. In other words, the results indicated that only relying on adult children as a source of income leads to higher perceived provision of social support and ultimately to lower depressive symptoms. Results revealed no significant effect for family social support as a moderator for any of the income sources which is in line with the findings by Krause et al. (1998) discussed earlier.

Social support was also found to be mediator and not moderator in the study by Guest and Biasini (2001). In their research on children living in poverty, social support was measured as children's perception of obtaining four traditional types of support: instrumental, emotional, informational and companionship. Stress reported by children had negative impact on their self-esteem and that effect was partially mediated by social support.

Collectively, the reviewed literature on physical and psychological outcomes highlights the complexity of social support as a resource for economic stress. A possible critical factor for understanding this process is the role of close family ties.

Family Relationships

A number of studies indicate the importance of close family members as a source of social support. For older adults these might be children (as was the case in studies by Krause et al., 1998 and Chou et al., 2004), yet a number of studies focus on spouses as the source of support. Simons, Lorenz et al, (1993) carried out a study aimed at testing the impact of economic stress on parental behaviors. The authors tested two sources of social support, namely spousal support and social network support which consisted of friends and members from outside of immediate family. The authors hypothesized that spousal support would be a primary buffer for the impact of economic stress on parental behaviors, whereas social network support would become more salient when support from life partner was low or non-existent. Rationale behind this hypothesis was that friends and acquaintances are not around often enough to provide adequate and timely help when needed, whereas often partner is. However, support from one's social network, though secondary to spousal one, was expected to affect parental behaviors indirectly through influencing the well-being of the partners.

Results indicated only one statistically significant effect for spousal support. It was hypothesized that economic pressure would lead to a decrease in supportive parenting via depression. The significant buffering effect for spousal support was found, for the relationship between depression and parenting. The buffering effect of spousal support on the relationship between economic pressure and depression was significant, but only marginally. What is more, this effect was found for mothers, but not fathers. The latter difference was hypothesized to the fact that women were more involved in parenting behaviors. Considering the fact that this study was carried out two decades ago, the gender difference might vary today.

These study results did not confirm expectations regarding social network support outside of one's spouse. There was no buffering effect and this source of support did not replace spousal support when the latter one was low. The authors claimed that this dependency might hold when the spousal support was non-existent as is the case with single parents. However, there were no single parents in the sample in this study.

Simons, Beaman, Conger, and Chao (1993) did complete a study evaluating this idea on a population of single mothers. Results indicated that such a population cannot be considered a homogeneous group. Mothers who have low income and low education often have difficulties accessing social network that might help them cope with financial hardship and as Krause et al. (1998) mention, members of an individual's social network tend to have the same or similar socio-economic status. Moreover, the impact of social network support for single parents was the same as in case of two-parent households; that is, it only affected parental behaviors indirectly via mothers' well-being. Thus, the idea one's social support network would be more critical in mediating the effect of economic pressure and parenting behaviors for single mothers was not confirmed.

The importance of spousal support emerged in the results of a study carried out by Conger et al. (1999). Here social support was measured through observations, rated on three dimensions, conducted while married couples solved two tasks (a family problem solving task and a marital interaction task). Three dimensions – separately for wives and husbands – were rated: prosocial behavior (which refers to spouse's cooperativeness), listener responsiveness (which refers to attentive listening), and endearments (which refers to approval of each other within the marriage). Social support measured in such a way emerged as a significant buffer between economic pressure and emotional distress both for wives and husbands.

Leinonen, Solantaus, and Punamaki (2003), in another study of social support among one and two-parent families, compared two types of families during economic crisis in Finland early in the 1990s. They were interested in how financial pressure affects parental behaviors, measured as authoritative vs. punitive. The authors also tested the buffering role of extrafamilial social support which refers to friends, ex-spouses and other relatives. The results of this study confirmed that one-parent families were exposed to greater economic pressure in the time of financial crisis. However, contrary to previous research, it was the single parent that obtained more social support than married or cohabitating parents. Regarding the type of the provided support, instrumental and emotional support (the latter only marginally statistically significant) emerged as more beneficial for mothers, regardless of their status as a single or non-single mother, in buffering the impact of economic pressure on punitive parenting. For fathers, the only significant effect (actually marginally significant) was for single parents. Instrumental support buffered the effect of their workload (working for longer hours or having two jobs due to economic hardship) on authoritative parenting.

Inability among fathers to benefit from extrafamilial support was attributed by the authors to the fact that men in Finland consider their life partners a main source of social support, whereas women remain open to the other sources of support. It is also interesting that single parents were able to benefit more from this kind of social support. The authors posit that the there is greater acceptance of one-parent households in Finland and other Nordic countries. It is plausible to assume that the external acceptance allows single parents to actively seek support and benefiting from without feelings of shame or guilt.

Unemployment and Job Insecurity

One of the consequences of a global economic crisis is job loss. Unemployment can be perceived as a loss of not one resource (i.e. source of income) but also others, such as sense of independency, security and self-confidence. Kokko and Pulkkinen (1998) in their study comparing mental health and well-being in employed individuals with those that were unemployed for a relatively long time. They found that the impact of unemployment on depressive symptoms and ill-health was mediated by a decreased economic situation. Interestingly enough, no buffering effect for social support was found. On the contrary, unemployed men, with high available social support demonstrated higher ill-health symptoms. It is noteworthy that social support was measured in terms of social network and the items consisted of questions about the number of friends, colleagues etc. Therefore it was more about the quantity of social relationships rather than their quality. Another important factor is that 40% of the participants in the unemployed group were not part of an intimate relationship, whereas 85% of the employed ones had a life partner. The lack of effect for social support among employed participants might be attributed to the fact that they had a partner's support at their disposal and, according to the studies reviewed earlier, this is main source of support for people

in an intimate relationship. Therefore again, the importance of identifying the type and source of social support emerges.

In this review some research has indicated that social support was more beneficial for women than men. Waters and Moore (2002), for example, tested the relationship between unemployment and self-esteem and the role of gender, social support, financial deprivation and alternate roles in this relationship. The authors predicted that financial deprivation – consequence of job loss – would lead to lower self-esteem among men than women and that women rather than men would benefit more in terms of self-esteem from having alternate roles to their professional one (e.g., domestic, parental). Regarding social support, the authors expected that again it would have more positive effect for women than men.

Results indicated that the negative relationship between financial deprivation and self-esteem was found for both genders. However, this relationship was more salient among men. On the other hand, within the female group, multiple life roles were related to higher self-esteem under financial deprivation. This relationship was not as significant within the male group. The results regarding social support also confirmed authors' expectations: women with higher social support demonstrated higher self-esteem than women with low social support. This dependency did not hold for men.

It needs to be noted that social support was measured as support that was already provided during unemployment. Therefore the questions referred to received global social support (i.e. there was no distinction between emotional, instrumental or informational support). An interesting finding in the study was that men did engage with their social network, but seemingly did not benefit from it. The authors attributed this lack of effect partially to the measure used in the study, claiming that it might be more useful to implement a more in-depth

measure, such as separate subscales for various types of support. We also suggest that men asked directly whether they benefited from external help might feel embarrassed to admit so. Moreover, it has been said earlier in this chapter that there is a risk that received support may fall short of one's expectations. It is then plausible to assume that men may only benefit from specific, well-targeted support, whereas women benefit from a range of various kinds of support.

Even if the job is not lost due to a financial crisis, often the sense of its security is. Indeed, Marchand, Demers, and Durand (2005) tested, among others, whether social support (provided by colleagues from workplace) and job insecurity affected initial and repeated episodes of psychological distress. Results indicated that social support did not prevent the first episode of psychological distress, but was found to buffer subsequent episodes. Job insecurity, on the other hand was positively related both to first and subsequent episodes.

Mohr (2000) makes interesting distinctions between four phases of job insecurity: (1) "job insecurity as a state of public awareness" which refers to common knowledge about high unemployment rate in given country, (2) "job security at the company level" which refers to situation in the company when difficulties are acknowledged but it is not certain whether and when the actions will be taken, (3) "acute job insecurity at the individual level" which refers to situation when a threat of losing a job becomes tangible, (4) "anticipation of job loss" which is a phase when it is already certain who is about to lose a job (Mohr, 2000; p. 339). In her study (2000) Mohr focused on acute and subjective job insecurity measured by asking participants about their level of certainty of losing a job. Social support, on the other hand, was measured with a scale that made the distinction between four sources: colleagues, supervisor, partner and friends and relatives. In line with her expectations, the author found that job insecurity was significantly and negatively related with mental health. Different types of social support turned

out to buffer the impact of job insecurity on different aspects of mental health. Social support provided by supervisors and colleagues at work moderated the relationship between job insecurity and irascibility; support provided by participants' partners moderated the effects of job insecurity and self-esteem. Results also indicated an interesting dependency when social support provided by one's wife was taken into account. The correlation between job insecurity and self-esteem among men who declared high support from their wives was negative. The review of the studies so far has demonstrated differences in benefiting from social support between genders with women declaring more positive outcomes. However, spousal support is generally the main source of support for men. In the case of this study we can argue that the specificity and customization of social support for men plays more important role than for women.

Conclusions

Although we are witnessing a huge public debate on political and social consequences of financial crisis that broke out in 2008, we should not forget about the broader context: People have always struggled with economic hardships and the desire for economic and political stability will be with us for very long time. On the other hand, the history of human nature proves our ability to survive and thrive in spite of the difficulties and extreme challenges. For example, people have learned how to cope with traumatic events in which they lost most of their financial and material resources.

This chapter highlights the importance and complexity of how social resources (e.g., specific types and sources of social support) may be utilized to reduce the negative consequences of economic stress. In the same time, after reviewing the existing literature, we need to say that our knowledge about both the positive and potentially negative effects of social support on adaptation in times of economic stress is rather limited. Moreover, existing literature lacks the

theoretical model which would be more specific in terms of the effects of economic strain. General stress theories (such as the COR theory) provide a useful framework, but further research needs to define coping processes that take place when individuals and societies have to face challenges related to the global economic crisis.

Although we referred several times to the Social Support Deterioration Deterrence Model, this model was developed for a very much different context of coping with natural disasters. Although this model discusses the dynamics of social support by showing both the mobilization and deterioration processes, one should note that this model may need some modification while applied to coping with stress induced by the global financial recession. First of all, process of the mobilization of social support may be disrupted because the economic crisis affects individuals and societies in such a profound way that they tend to protect their limited resources instead of offering those resources to help others. Second, although studies show that emotional support helps in coping with stress, other types of social support (such as instrumental or informational support) might be more effective while coping with economic stress. Future research will have to help to elucidate the mechanisms through which different support types and outlets enhance an individual's capacity to be resilient in times of extreme economic hardship.

References

Cheng, C., Chen, Z., & LuoKogan, A. (2008). Social support and money as double-edged swords: primary soothers and precipitants of pain. *Psychological Inquiry*, *19*, 153–160. doi: 10.1080/10478400802608806

Chou, K. L., Chi, I., & Chow, N. W. S. (2004). Sources of income and depression in elderly Hong Kong Chinese: mediating and moderating effects of social support and financial strain. *Aging & Mental Health*, *8*(3), 212-221. doi: 10.1080/13607860410001669741

Cohen, S., & Wills, T. A. (1985). Stress, social support, and the buffering hypothesis. *Psychological Bulletin, 98*(2), 310-357. doi: 10.1037/0033-2909.98.2.310

Conger, R. D., Rueter, M. A., & Elder, G. H. Jr. (1999). Couple resilience to economic pressure. *Journal of Personality and Social Psychology*, *76*(1), 54-71. doi:10.1037/0022-3514.76.1.54

Guest, K. C., & Biasini, F. J. (2001). Middle childhood, poverty, and adjustment: does social support have an impact? *Psychology in the Schools*, *38*(6), 549-560. doi: 10.1002/pits.1042

Hobfoll, S. E. (1998). *Stress, culture, and community: The psychology and philosophy of stress*. New York: Plenum Press.

Hobfoll, S. E., Johnson, R. J., Ennis, N. E., & Jackson, A. P. (2003). Resource loss, resource gain, and emotional outcomes among inner-city women. *Journal of Personality and Social Psychology, 84,* 632–643. doi: 10.1037/0022-3514.84.3.632

House, J. S., Umberson, D., & Landis, K. R. (1988). Structures and processes of social support. *Annual Review of Sociology*, *14*, 293-318.

Kaniasty, K., & Norris, F. H. (1993). A test of the social support deterioration model in the context of natural disaster. *Journal of Personality and Social Psychology*, *64*(3), 395-408. doi: 10.1037/0022-3514.64.3.395

Kokko, K., & Pulkkinen, L. (1998). Unemployment and psychological distress: mediator effects. *Journal of Adult Development*, *5*(4), 205-217. doi: 10.1023/A:1021450208639

Krause, N., Liang, J., & Gu, S. (1998). Financial strain, received support, anticipated support, and depressive symptoms in the People's Republic of China. *Psychology and Aging*, *13*(1), 58-68. doi:10.1037/0882-7974.13.1.58

Leinonen, J. A., Solantaus, T. S., & Punamaki, R. (2003). Social support and the quality of parenting under economic pressure and workload in Finland: the role of family structure and parental gender. *Journal of Family Psychology*, *17*(3), 409-418. doi: 10.1037/0893-3200.17.3.409

Luszczynska, A., & Cieslak, R. (2005). Protective, promotive, and buffering effects of perceived social support in managerial stress: the moderating role of personality. *Anxiety, Stress & Coping: An International Journal, 18*(3), 227-244. doi: 10.1080/10615800500125587

Marchand, A., Demers, A., & Durand, P. (2005). Do occupation and work conditions really matter? A longitudinal analysis of psychological distress experiences among Canadian workers. *Sociology of Health & Illness, 27*(5), 602-627. doi: 10.1111/j.1467-9566.2005.00458.x

Mistry, R. S., Lowe, E. D., Benner, A. D., & Chien, N. (2008). Expanding the family economic stress model: insights from a mixed-methods approach. *Journal of Marriage and Family*, *70*(1), 196-209. doi: 10.1111/j.1741-3737.2007.00471

Mohr, B. G. (2000). The changing significance of different stressors after the announcement of bankruptcy: A longitudinal investigation with special emphasis on job insecurity. *Journal of Organizational Behavior*, *21*(3), 337-359. doi: 10.1002/(SICI)1099-1379(200005)21:3<337::AID-JOB18>3.0.CO;2-G

Norris, F. H., & Kaniasty, K. (1996). Received and perceived social support in times of stress: a test of the social support deterioration deterrence model. *Journal of Personality and Social Psychology*, *71*(3), 498-511. doi: 10.1037/0022-3514.71.3.498

Peirce, R.S., Frone, R. M., Russell, M., & Cooper, M. L. (1996). Financial stress, social support, and alcohol involvement: a longitudinal test of the buffering hypothesis in a general population survey. *Health Psychology*, *15*(1), 38-47. doi: 10.1037/0278-6133.15.1.38

Prati, G., & Pietrantoni, L. (2010). The relation of perceived and received social support to mental health among first responders: a meta-analytic review. *Journal of Community Psychology*, *38*(3), 403-417. doi: 10.1002/jcop.20371

Schwarzer, R., & Knoll, N. (2007). Functional roles of social support within the stress and coping process: A theoretical and empirical overview. *International Journal of Psychology*, *42* (4), 243–252. doi: 10.1080/00207590701396641

Simons, R. L., Beaman, J., Conger, R. D., & Chao, W. (1993). Stress, support, and antisocial behavior trait as determinants of emotional well-being and parenting practices among single mothers. *Journal of Marriage and the Family*, *55*, 385-398. doi: 10.2307/352809

Simons, R. L., Lorenz, F. O., Wu, Ch., & Conger, R. D. (1993). Social network and marital support as mediators and moderators of the impact of stress and depression on parental behavior. *Developmental Psychology*, *29*(2), 368-381. doi: 10.1037/0012-1649.29.2.368

Ünal-Karagüven, M. H. (2009). Psychological impact of an economic crisis: a Conservation of Resources approach. *International Journal of Stress Management*, *16*(3), 177-194. doi: 10.1037/a0016840

Waters, L. E., & Moore, K. A.(2002). Predicting self-esteem during unemployment: the effect of gender financial deprivation, alternate roles and social support. *Journal of Employment Counseling*, *39*(4), 171-189.

Zhou, X., & Gao, D. (2008). Social support and money as pain management mechanisms. *Psychological Inquiry*, *19*(3-4), 127-144. doi: 10.1080/10478400802587679

Appendix II

Conference Abstract:

Smoktunowicz, E., Cieslak, R., & Benight, C. (2012, April). *Perceived social support moderates the mediating effect of job burnout on the relationship between secondary traumatic stress and work engagement*. Paper presented at the Conference of the European Academy of Occupational Health Psychology, Zurich, Switzerland.

Longitudinal study examined the direct and indirect impact of particular type of occupational stress, namely secondary traumatic stress, on work engagement. Specifically, it was investigated (1) whether job burnout mediates the impact of secondary traumatic stress on work engagement, and (2) whether this mediation is moderated by the level of perceived social support.

The respondents were professionals (e.g., social workers, rescue workers, $N = 179$) working with trauma victims or survivors. All participants were indirectly exposed to traumatic stressful events through their work with patients/clients. The Secondary Traumatic Stress Scale (STSS; Bride, Robinson, Yegidis, & Figley, 2004) was used to assess symptoms of secondary traumatic stress that were related to work, the Utrecht Work Engagement Scale (UWES; Schaufeli & Bakker, 2003) was applied to evaluate work engagement, the Multidimensional Scale of Perceived Social Support (MSPSS; Zimet, Dahlem, Zimet, & Farley, 1988) was used to measure perceived social support and the Oldenburg Burnout Inventory (OLBI; Halbesleben & Demerouti, 2005) was applied to assess job burnout. In all moderated mediation analysis the baseline level of work engagement was controlled for and a bootstrapping procedure was applied (Preacher, Rucker, & Hayes, 2007).

Results of our longitudinal study indicated that the effect of secondary traumatic stress on work engagement was mediated by job burnout only when perceived social support was low or medium. When perceived social support was high, the indirect effect of secondary traumatic stress on work engagement via job burnout was not significant.

One of the practical implications of the study is that suffering from the high level of secondary traumatic stress may have direct and indirect impact on low work engagement and that social support may help to prevent this effect.

Appendix III

Secondary Trauma and Burnout
Open Call for Manuscripts
Psychological Services

The editorial staff at the APA Division 18's journal, Psychological Services, is extending an invitation for manuscripts to be considered for a special section on secondary trauma and burnout Drs. Charles Benight, Roman Cieslak, Bret Moore, and Jeffrey Burk have agreed to serve as our guest editors.

Understanding the complexity of psychological health for mental health providers is critically important. The challenges of secondary traumatic stress and burnout are frequently expressed, yet the issues are not clearly understood. Much of the research in this area has been non-empirical and without strong theoretically based frameworks. Additionally, the scientific evaluation of innovative intervention strategies to assist providers in managing these issues is clearly lacking. Therefore, this special section is devoted to enhancing the current knowledge base related to understanding secondary traumatic stress and/or burnout in mental health providers and what can be done to address these issues in public sector settings. Increasing numbers of Veterans experiencing posttraumatic stress disorder or traumatic brain injury, more frequently occurring and more destructive natural disasters, and decreasing budgets resulting in increasing workloads all can take a toll on the psychological health of treatment providers, making this a critical issue for those who work in the public sector.

This special section is focused on four primary areas related to secondary trauma and/or burnout.

1) Information on the prevalence of these issues in different contexts of mental health services is needed. Studies that utilize strong sampling strategies with solid measurement are particularly welcomed.

2) Identification of critical predictors for secondary trauma and/or burnout that take into account the various domains for mental health providers is essential. Studies that utilize solid measurements and research designs (longitudinal) are especially desired.

3) Investigations that focus on theoretical frameworks related to the dynamic interplay between secondary trauma and burnout are critically needed. Theory based studies with clearly delineated hypotheses are particularly important.

4) Finally, information on differential approaches designed to reduce the effects of secondary trauma and/or burnout are desired. This area of research is in need of empirical studies that test well-designed support interventions. Such studies are strongly welcomed, especially as they relate to addressing burnout and/or secondary trauma of mental health providers in public sector settings.

Given the focal areas described above, as the APA Division dedicated to psychologists in public service, Division 18 welcomes manuscripts related to secondary trauma and/or burnout including but not limited to the following domains:

- Psychologists working on military installations, within community based settings, or in the Department of Veterans Affairs.
- Psychologists working within police and fire populations.
- Psychologists working in state hospitals.
- Psychologists working with the vulnerable and minority communities
- Forensic psychologists.

Meta-analytic papers, theoretical-based papers, and empirical papers are all welcomed for submission. To promote the utility of this special section, all papers submitted must have a clinical application section that outlines the importance of the findings for the health and wellbeing of public service psychologists. The deadline for receipt of papers for this special section is November 1, 2012. Please follow the Instructions to Authors information located on the Psychological Services website at: http://www.apa.org/pubs/journals/ser/index.aspx. Manuscripts must be submitted electronically through the Manuscript Submission Web Portal as described on the journal's website, here: http://www.jbo.com/jbo3/submissions/dsp_jbo.cfm?journal_code=ser

Please specify in your cover letter that the submission is intended for the special section on secondary trauma and burnout and address your letter to Dr. Lisa Kearney, Associate Editor. All papers submitted will be initially screened by the editorial board and then sent out for blind peer review, if evaluated as appropriate for the journal.

For further questions related to this special section, please contact Dr. Kearney at lisa.kearney3@va.gov

Appendix IV

Web Intervention Design Issues

This report describes the design issues to consider when designing the SupportNet internet-based intervention. A model from Frank (2003) describes a set of principles to consider when evaluating the design of a computer-based intervention. These factors are usefulness, ease-of-use, efficiency, engagement, and trustworthiness (Frank, 2003).

Design Principles

Usefulness

The system must provide ". . . accurate content that is relevant . . ." (Frank, 2003, p. 1) for the users. It should use dynamic and graphical content that provides information that is tailored to the user's level of symptoms (as measured by the assessment) and knowledge (as assumed by level of professional education). The user should not be demotivated by being presented with information that is not relevant to their particular needs.

Ease-of-Use

Is information conveyed without requiring a lot of reading?

Efficiency

Does the site match the mental models of the users? Research suggests that the most efficient sites provide the user with a mental model or landscape that allows the user to more easily process and incorporate new information (Rosen & Purinton, 2004).

Engagement

Engagement requires that there is a reason and motivation for regularly returning to the site. Rosen and Purinton (2004) describe a Preference Framework from the work of Rosen and Rosen. This framework includes design dimensions that improve the user's comfort and willingness to regularly return to a site. These dimensions include coherence, complexity, legibility and mystery (Rosen & Purinton, 2004) explaining

These dimensions allow a rapid assessment of a scene or situation based upon a surface examination. Settings which are orderly (coherent) increase the individual's ability to understand the environment. Environments containing richness of elements (complexity) encourage exploration. Neither complexity nor coherence alone is sufficient to motivate activating one's cognitive map and, hence, feeling confident and comfortable in an environment; both are required. . . Research demonstrates that people favor landscapes which recognize a preference for coherence and legibility (Lynch, 1960), while at the same time accommodating a desire for some complexity (Wohlwill, 1976) and mystery (Kaplan, 1973b) (Rosen & Purinton, 2004, p. 789).

Trustworthiness

Can the site and its information be trusted? Is it sponsored by a reputable organization?

Factors Affecting Use

There appear to be three factors affecting the use and efficacy of internet interventions. They are drop-out rates, adherence to the treatment, and continued engagement with the site.

Drop-Out Rates

Donkin et al. (2011) discuss their findings about the factors that influence drop-out rates of e-Therapy treatments. The suggest that drop-out rates for internet interventions is close to or perhaps lower than drop-out rates for in-person therapy. Factors that contribute to continued use and engagement are 1) use of empathy and social dialogue in the program, 2) regular tracking and reminders for the users, and 3) willingness to invest the time and physical and emotional energy in the program (Donkin et al., 2011).

Adherence

Adherence refers to whether the treatment protocol designed into the site is being completed and followed as designed. Adherence has been measured by site usage statistics including logins and site usage statistics including such things as modules completed, posts on a forum, page views, and the like (Donkin et al., 2011). As noted by Donkin et al. (2011), the most common measurement of adherence for psychological interventions was module completion.

Engagement and Continuance

Engagement refers to whether the site is designed in a way that keeps the user's interest and creates the sense of mystery that encourages the user to seek more information. Continuance relates to whether users repeatedly return to the site (Chen, 2007). What isn't clear is what design factors influence the user's continued engagement in the site and how the site might be designed to increase engagement and continuance.

From Castaneda, Munoz-Leiva, and Luque (2007)

To predict user's intention to revisit a website Castaneda, Munoz-Leiva, and Luque (2007) did a study to understand the factors that contribute to engagement and continuance. This was one of the first studies conducted using an Internet-based application instead of simply acceptance of internal IT systems.

More specifically, the results are as follows:

_ Perceived usefulness is the main determinant of the intention to continue visiting a website, irrespective of the level of experience of the user, its direct influence being greater in the frequent users of the Internet.

_ In users with high experience of the Internet or a website, the influence of perceived usefulness on the process of forming the attitude to the website is substantially greater than in users with low experience.

_ In users with high experience of the Internet or a website, the influence of perceived ease of use on the attitude towards the website is substantially smaller than in users with low experience. By the same token, in a high experience situation, the attitude is conditioned primarily by usefulness, the direct effect of ease of use being practically non-existent, corroborating the results of the original TAM. (Castaneda, Munoz-Leiva, & Luque, 2007, p. 392)

"It is worth noting that perceived usefulness was the most important determinant of the intention to visit, regardless of the user's level of experience." (Castaneda, Munoz-Leiva, & Luque, 2007, p. 393)

Professional Virtual Communities (Chen, 2007) – factors affecting continuance intentions are " . . . system quality, information quality and satisfaction impact IS users" intentions. . ." (Chen, 2007, p. 452).

Chen (2007) describes the concept of "social capital" as the value that gets created by the participation in a professional network in terms of the resources that network represents. Social capital facilitates knowledge exchange and knowledge exchange keeps the PVC relevant and useful. Without knowledge exchange, the PVC becomes outdated and does not attract (engagement) or retain (continuance) the interest of its participants.

Changes in Design

"*The Web 2.0 technologies that call for a more stakeholder-driven approach are beyond the scope of current frameworks. To overcome these limitations, we composed a holistic framework based on a participatory development approach, persuasive design techniques, and business modeling*." (Van Gemert-Pijnen et al., 2011). "*The way in which technology is being designed to improve health care needs rethinking*." (Van Gemert-Pijnen et al., 2011).

Constructs:

Cognitive absorption (Agarwal & Karahanna) (a trait variable??)
Individual traits (Roche & McConkey, Wild et al)
Cognitive playfulness (Webster & Martochhio)
Personal Innovativeness in IT (Agarwal & Prasad)
"Flow" experience (Trevino & Webster)
Cognitive engagement (Agarwal & Karahanna)
Perceived usefulness (Davis)
Perceived ease of use (Davis)
Computer self-efficacy (Compeau & Higgins)

References

Adler, P. S., & Kwon, S. (2002). Social Capital: Prospects for a New Concept. *Academy of Management, 27*(1), 17-40.

Castaneda, J. A., Munoz-Leiva, F., & Luque, T. (2007). Web Acceptance Model (WAM): Moderating effects of user experience. *Information & Management, 44*, 384-396.

Chen, I. Yl (2007). The factors influencing members' continuance intentions in professional virtual communities - a longitudinal study. *Journal of Information Science, 33*(4), 451-467.

Donkin, L., Christensen, H., Naismith, S. L., Neal, B., Hickie, I. B., & Glozier, N. (2011). A Systematic Review of the Impact of Adherence on the Effectiveness of e-Therapies. *Journal of Medical Internet Research, 13*(3), 52.

Frank, R. (2003, January). The User-centric Approach to Website Design. Retrieved December 7, 2011, from http://www.swandive.com/portfolio/swandivedigital_usercentric.pdf

Rosen, D. E., & Purinton, E. (2004). Website design: Viewing the web as a cognitive landscape. *Journal of Business Research, 57*, 787-794.

Van Gemert-Pijnen, J. E., Nijland, N., Van Limburg, M., Ossebaard, H. C., Kelders, S. M., Eysenback, G., & Seydel, E. R. (2011). A Holistic Framework to Improve the Uptake and Impact of eHealth Technologies. *Journal of Medical Internet Research, 13*(4), 111.

Appendix V

SupportNet Evaluation Literature Review

Robert Durham, Melissa Teel, Michelle Gaumond

University of Colorado Colorado Springs

Abstract

Psychologists treating military patients are likely currently at risk for burnout, secondary traumatic stress, and compassion fatigue. These problems are defined both generally and within the context of treating individuals who have experienced combat trauma. The literature review aims to identify the interventions for burnout and compassion fatigue both within the military and in other related fields. The scarcity of empirical literature on military interventions and the absence of program evaluations within the military demonstrates the present need for empirical research to be conducted in this area. Evaluations of relevant mental health interventions are also discussed to provide a framework for our developing evaluation plan. Measures used to assess the effectiveness of the SupportNet intervention are discussed. Implications for the SupportNet intervention for primary caregivers within the military are discussed in light of the literature and research.

Wounded soldiers have been returning from war for millennia. While physical injuries have always been treated with the utmost urgency and care, the United States military has only recently come to recognize or treat battle-related psychological problems. It wasn't until the first Gulf War that post-traumatic stress disorder (PTSD) was recognized as a mental disorder. Treatments for PTSD have progressed dramatically in the past twenty years, and several evidence-based treatments are currently endorsed by the U.S. military. To this end, the technology of today offers a unique opportunity to provide treatment for returning soldiers as well as provide support for the caregivers who treat them.

In treating clients with combat trauma, mental health professionals listen to recounts of uniquely horrific traumatic events. The following review first defines these interrelated constructs and how they affect military mental health providers. Interventions that have addressed the problems of burnout, STS, or CF in caregiving professions are outlined, followed by interventions to date that address these problems within the military. Demonstrating the need for empirical evaluation, there are very few programs evaluated on this topic. Process and outcome evaluations to date are summarized as well as measures used to assess the effectiveness of similar or related interventions.

Occupational Obstacles for Caregivers

Individuals working in human service fields come in contact with certain occupational dangers or side effects. Several terms have been used to label the resulting stress and coping difficulties experienced by some mental health professionals, including vicarious traumatization (VT), secondary traumatic stress (STS), compassion fatigue (CF), and burnout (McCann & Pearlman, 1990; Figley, 1995). While many avenues are being explored to help human service

workers avoid these occupational hazards, military psychologists face special challenges that are unique to their positions. Evaluations of relevant programs are sparse and even absent in terms of military caregivers.

Burnout

Everyone experiences some level of stress at work; however, some occupations expose employees to stress and possibly dangerous situations more than others. For the individual who may be experiencing an extensive amount of stress at work or who is employed in a higher stress job, burnout may occur. Burnout is a complex idea that has been defined in several different ways throughout the years and has symptoms ranging from mild distress to severe depression (Meldrum, 2010). Others define it as emotional exhaustion accompanied by depersonalization, alienation and lack of personal accomplishment (Linnerooth, Mrdjenovich, & Moore, 2011; Lee, Lim, Yang, & Lee, 2011; Le Blanc, Hox, Schaufeli, Taris & Peeters, 2007). Emotional exhaustion has been defined as feeling overextended and exhausted emotionally and physically, and it seems to correlate with high work demands, general work stressors and feelings of having to 'deaden one's conscience' (Glasberg, Eriksson, & Norberg, 2007, p. 392). Depersonalization refers to beginning to feel negative, callous, detached, or cynical in response to coworkers and clients and their situations (Newell & MacNeil, 2010). Lack of personal accomplishment means a decline in feelings of competence and productivity while at work (Halbeslebe & Demerouti, 2005). Burnout can cause a great deal of distress in clinicians, it can create conflicts in their personal lives, and it may reduce their capacity to perform their job effectively (Meldrum, 2010; Newell & MacNeil, 2010).

Factors that have been shown to contribute to burnout are high workloads, obscure job requirements or role at work, feelings of loss of control at work, lack of social support and

certain personality characteristics (Glasberg, Eriksson, & Norberg, 2007). Social support, setting boundaries, and a feeling of internal locust of control were shown in one study to account for 74% of the variance between clinicians who did and did not experience burnout (Killian, 2008).

Many different human service workers are at high risk of burnout, but clinical military psychologists and other military mental health care providers currently have a very high risk for burnout due to the increasing numbers of soldiers returning from combat who need mental health services. The influx of soldiers requiring treatment along with the ordinarily higher stressors and unique job requirements that these clinicians experience puts them in greater danger of burnout (Linnerooth, Mrdjenovich, & Moore, 2011). While these issues have been acknowledged and addressed in literature, there is a paucity of empirical data concerning burnout, its consequences, or its treatment within the population of military clinicians.

Vicarious Traumatization

In addition to burnout, working with traumatized clients, particularly military personnel, presents additional risks to psychologists. McCann and Pearlman (1990) coined the term "vicarious traumatization" (VT) to describe the changes in cognitive schemas, views of the world, and personal relationships that clinicians may experience as a result of trauma therapy. Repeated empathic engagement with clients' traumatic experiences may result in disruptions to the therapist's experience of self, others, and the world (Pearlman & MacIan, 1995). Effective trauma treatment typically involves the patient describing the traumatic experiences in detail in order to process and work through them. As a result, in helping trauma survivors, therapists listen to graphic stories of combat experiences, and are confronted with harsh examples of people's cruelty to one another (Pearlman & Saakvitne, 1995). Specifically, a high percentage of combat infantry members returning from Iraq and Afghanistan report handling dead bodies,

knowing someone who was killed or injured, killing an enemy combatant, and seeing ill or injured women or children whom they were unable to help (Hoge, Castro, Messer, McGurk, Cotting, & Koffman, 2004).

Secondary Traumatic Stress

Secondary traumatic stress (STS) describes how those who seek to help traumatized individuals may experience significant emotional disruption and may themselves become indirect victims of the trauma (Figley, 1995). As a result, STS is increasingly becoming recognized as an occupational hazard to professionals who interact directly with traumatized individuals (Bride, Robinson, Yegedis & Figley, 2004). While VT and STS are clearly related to one another, they can be distinguished in that VT refers to cognitive changes, while STS refers to the manifestation of PTSD-like symptoms (Voss Horrell, Holohan, Didion, & Vance, 2011). Through secondary exposure, social workers can experience symptoms that closely resemble the symptoms of PTSD caused by direct exposure to traumatic events (Figley, 1999). Similar to PTSD, symptoms of STS include intrusive recollection (e.g., repeatedly thinking about clients experiences or having disturbing dreams related to work with clients), avoidance (e.g., wanting to avoid working with some clients, avoiding people, places or things that are reminders of work with clients), hyperarousal (e.g., feeling jumpy, feeling easily annoyed, having difficulty sleeping), and feeling emotionally numb (Bride et al., 2004). Secondary traumatic stress disorder (STSD) is nearly identical to PTSD except that the stressor is experienced indirectly.

Compassion Fatigue

Figley (1995) introduced the term compassion fatigue (CF) as a more "user-friendly" term to describe STSD. In addition to the symptoms for STS described above, CF is characterized by reduced capacity or interest in being empathic (Figley, 1995). Because being

empathic is considered by most to be crucial component in building a therapeutic alliance, CF likely negatively affects clinicians' ability to do their job. Compassion fatigue contains both elements of STS and burnout, and accordingly, measures of CF contain submeasures for STS and burnout (Adams, Boscarino, & Figley, 2006). According to Figley (2002), several variables contribute to the development of compassion fatigue, including empathic ability, empathic concern, exposure to the client, empathic response, compassion stress, sense of achievement, disengagement, prolonged exposure, traumatic recollections, and life disruption. The applications of Figley's model will be discussed in the interventions section.

Interventions

The following section discusses mental health interventions aimed to reduce burnout, STS, and CF among human service workers in general, and specifically within the military. Web-based mental health interventions are described and recommendations are proposed. Finally, mental health interventions within the military are analyzed in detail, both those involving face-to-face communication and online interventions.

Burnout Intervention in Medical Field

In addition to military mental health care providers, physicians and other professionals working in human services field (e.g. social workers, nurses, and caretakers for the elderly) also experience high rates of burnout. One population that is experiencing burnout is oncology care providers. To reduce burnout among oncology care providers, Killian (2008) developed a team-based burnout intervention and tested its effectiveness using a pre-test, post-test design (Killian, 2008). The intervention itself included a training manual, counseling sessions to inform about self-care and ways to avoid burnout, and social support. The results showed the intervention

succeeded in significantly decreasing participant's feelings of depersonalization and emotional exhaustion. This study claims quite a few limitations and suffered from high attrition in the experimental group (Le Blanc, Hox, Schaufeli, Taris, & Peeters, 2007).

STS Intervention for Well Baby Nurses

Another similar intervention was done by Berger and Gelkopf (2011) to reduce secondary trauma through increasing self-efficacy was done in Israeli an effort to help well baby clinic nurses. In this study, 90 nurses were randomly assigned to a control group (wait-list group) or experimental group (intervention group). The intervention group was asked to attend 12 weekly six-hour group sessions in which they would receive education on self-efficacy practices and would participate in group discussions. None of the nurses who began the program finished all 12 session. The results of the study showed that the participants in the experimental group showed a significantly greater reduction on self-report measures of STS as well as elevated scores on professional self-efficacy.

Internet Interventions

With the increasing utility of technology in our everyday lives, the development of internet interventions has grown rapidly over the past decade. Several programs have been launched to treat a variety of mental health problems, including alcohol addiction, stress management, PTSD, anxiety and depression (Williams, Hagerty, Brasington, Clem & Williams, 2010; Hirai & Clum, 2005; Lange et al., 2001; Litz et al, 2004). Internet interventions hold a great deal of potential for reaching a wider scope of individuals who may not otherwise seek mental health treatment; several barriers to seeking traditional in-person therapy include monetary constraints, scheduling difficulties, lack of available providers within the geographic area (especially in rural areas), and the stigma associated with mental health issues. Empirically

supported internet interventions will next be discussed followed by descriptions of military internet interventions that have yet to be evaluated empirically.

Interventions for PTSD. Internet interventions for traumatic stress have shown encouraging results (Benight, Ruzek, & Waldrep, 2008). Several online interventions have proven efficacious in reducing symptoms of PTSD in non-military participants (Hirai & Clum, 2005; Lange et al., 2001; Litz et al., 2004).

In a recent meta-analysis of telehealth interventions Sloan, Gallagher, Feinstein, Lee and Pruneau (2011) found that telehealth interventions produced large and significant effect sizes in reducing PTSD symptoms compared to wait-list control groups ($d = 1.01$, $p < .001$). However, the mean effect size for telehealth treatments showed it to be significantly less effective than face-to-face interventions for trauma treatment. These findings suggest that face-to-face trauma treatment is more effective than telehealth interventions for PTSD; however telehealth interventions produce meaningful reductions in PTSD symptoms, so therefore would be preferable to no treatment for individuals impeded by barriers to seeking traditional face-to-face psychotherapy. Of the studies included in the meta-analysis that reported pre- and post-treatment measures of PTSD symptoms, the mean within-groups effect size was large and statistically significant; although these results suggest that telehealth interventions result in large reductions in PTSD symptoms, Sloan et al. caution the reader that they calculated a significant Q statistic which indicates that the effect sizes in the analysis were heterogeneous.

One noteworthy randomized control trial (RCT) included in the previous meta-analysis delivered an internet-based CBT to military participants with combat-related PTSD (Litz, Engel, Bryant, & Papa, 2007). The study compared an online therapist-assisted self-management CBT intervention to an internet-based supportive counseling control and found that those who

received the self-management CBT intervention reported greater reductions in PTSD symptoms and one-third reported high end-state functioning at six-month follow-up (Litz et al., 2007).

Military Interventions

Only recently have people began to take notice of the struggles that those who provide mental health services to the military face. To help these individuals, several programs have been designed to assist them in achieving adequate tools for self-care and to intervene for those who are already experiencing these problems. There are still too few programs in place and a lack of evaluations of these programs to know if they are actually helping to curtail the struggles of military caregivers. However, it is promising that these struggles are being recognized and attempts are being made to address them.

Army Provider Resiliency Training. Launched in July, 2008, the Army Provider Resiliency Training (PRT) initiative intends to address the issues of CF and burnout among Army Medical Department healthcare providers (Boone, Camarillo, Landry & DeLucia, 2008). The Army PRT program consists of three phases. In the first phase, providers are given the Professional Quality of Life Inventory (ProQoL) and given immediate feedback on his or her current levels of compassion satisfaction, compassion fatigue, and burnout. Also in the first phase, providers watch a "brief, but extremely important, PRT video which sets the stage for one's ongoing self-care response to the inevitable challenges to well-being brought on by difficult work" (Boone et al., p. 59).

Phase two involves education about the signs of compassion fatigue (which is called "provider fatigue") as well as strategies to enhance compassion satisfaction (called "provider resiliency"). These terms were determined to be more in tune with military terminology. Also in

phase two, the healthcare provider discusses the meaning of the Professional Quality of Life ProQOL results and outlines their personal self-care plan.

The last phase involves a ProQOL reassessment and making any adjustments to the self-care plan. Throughout the program, PRT trainers should be easily accessible and available to address providers' questions or concerns related to provider fatigue, burnout, or the self-care plan (Boone et al., 2008). Recognition of military healthcare providers' need for such services to address the problems of compassion fatigue, burnout, and overall quality of life is a significant first step. However, to date, there does not seem to be any ongoing assessment or evaluation of the program and its effectiveness. In order to improve and build upon the Army PRT program, empirical research and formal evaluation techniques are needed.

Care for the Caregivers. Brooke Army Medical Center at Fort Sam Houston, Texas has launched their "Care for the Caregivers" program in an effort to address the related problems of secondary traumatic stress and burnout. The program combines prevention training and treatment, including seminars and stress-management techniques (Wilson, 2008). Furthermore, the facility has built a relaxation room at the hospital to demonstrate their appreciation and caring for the caregivers at Brooke hospital. This respite room provides a place caregivers can temporarily escape the stresses of work. It is furnished with comfortable chairs, soothing music played through high quality sound-system, and dim lighting to promote relaxation (Wilson). While the respite room and training may provide some benefit to the employees at Brooke Hospital, there has yet to be any assessment of how the program is going or empirical data measuring the program's effectiveness.

Accelerated Recovery Program. Developed by the Traumatology Institute at Florida State University, the Accelerated Recovery Program (ARP) aims to address the issue of

compassion fatigue by helping clinicians to regain functioning in their personal and professional lives and to positively reinforce their future in their profession. The ARP helps caregivers to resolve the symptoms and causes of compassion fatigue as well as develop a self-care plan to promote resiliency and provide protection against future compassion fatigue (Gentry, Baranowsky, & Dunning, 2007).

The ARP consists of a standardized treatment over five sessions. The goals of treatment, called the four pathways to recovery, include skills acquisition, self-care, internal conflict resolution, and connection with others (Gentry et al., 2007). Caregivers are asked to tell their story, and an inventory is taken of the experiences which have cumulated to produce CF. Additionally, caregivers are asked to recall specific situations which function as triggers of their CF. Also, the caregiver is encouraged reconnect with the hope and empowerment felt earlier in their career. Relaxation skills are taught as well, including a progressive relaxation exercise and a safe-place visualization (Gentry & Schmidt, 1996).

In the third session, the caregivers discuss their professional goals, personal goals, primary and secondary trauma, silencing response, and trajectory of hope. Vicarious trauma situations that trigger CF for the caregiver are reviewed and the caregiver reviews self-regulation strategies for handling such situations (Gentry et al., 2007). Eye Movement Desensitization Reprocessing therapy (EMDR) may be used as well. The caregiver and therapist develop a self-care plan. They are asked to identify areas where they need professional skill development and contract to take the necessary steps to acquire these skills. The therapist reads a letter from "The Great Supervisor" which includes things that the professional most needs and wants to hear from his or her supervisor; later the caregiver is asked to read this letter aloud on videotape.

Although promoted at a conference in Quebec, the Accelerated Recovery Program does not yet have empirical published results evaluating its efficacy. It draws upon several already known treatments, including time-limited trauma therapy, thought field therapy, eye-movement desensitization reprocessing (EMDR), video-dialogue, visual/Kinesthetic dissociation, and hypnotherapy (Gentry et al., 2007).

The accelerated recovery program was initially tested among a small sample of caregivers (n = 10) who provided assistance to survivors of the 1995 Murrah Building bombing in Oklahoma City; the sample included chaplains, psychologists, and emergency services personnel. Gentry and Baranowsky (2002) found that the ARP resulted in significant reductions in scores on the compassion fatigue and burnout subscales of the Compassion Satisfaction/Fatigue Self-Test (Figley, 1995) from pretest to posttest, and compassion satisfaction subscale scores increased. In order to determine the merit of ARP, empirical research must determine its effectiveness. Furthermore, ARP consists of a myriad of different treatments, and it could be improved by disseminating the most important elements and devoting more energy to those significant parts.

Certified Compassion Fatigue Specialist Training (CCFST). In response to the accelerated recovery program, the CCFST was developed in order to provide comprehensive training to professionals to help other caregivers suffering from compassion fatigue (Gentry, Baggerly, Baranowsky, 2004). This comprehensive training program seeks to teach professionals how to implement the ARP and has the added benefit of "training-as-treatment" effect, whereby the education and training help caregivers to recognize and prevent CF in themselves (Gentry et al., 2004). The participants received training over the course of two days, were given pre- and post-tests of the compassion satisfaction/fatigue self-test (CSFST; Figley,

1995), and demonstrated reductions in CF and burnout as well as increases in compassion satisfaction (Gentry et al., 2004). This concept of "training-as-treatment" may have merit as a way to train participants both to treat others with compassion fatigue as well as provide treatment to those participants who are suffering with CF themselves. In this way, the CCFST may have the added benefit reaching professionals who may otherwise not seek help themselves. Because this study was not published and has yet to be replicated, additional research is necessary to determine if CCFST can be deemed an effective treatment in itself and if it provides the added benefit of treating the professionals who participate. However, the CCFST program is noteworthy in that it endorses and teaches clinicians how to implement the ARP; additionally, the CCFST program provides education and skills to clinicians to improve awareness, prevention, and treatments for CF.

Afterdepoloyment.org. The DoD launched the website afterdeployment.org (AD) to accomplish two goals: (1) to provide online tools for early diagnosis and treatment of PTSD for military and civilian health care providers, and (2) to assists as family members of military members in identifying PTSD (Ruzek, Hoffman, Cuilla, Prins, Kuhn & Gahm, 2011). AD includes online assessments for 29 postdeployment issues. The site is directed toward military service members, their families, veterans, and providers working with the military community. AD provides comprehensive information on 18 topic areas, including PTSD, mild traumatic brain injury, alcohol and drugs, health and wellness, and resilience. For each topic, AD contains videos, self-directed workshops with interactive exercises, and links to relevant resources. Users may work at their work at their own pace and access resources privately and conveniently anytime; AD can be accessed 24 hours everyday, which increases the timeliness of treatment since individuals do not have to wait for an appointment (Ruzek et al., 2011). Given the stigma

associated with seeking mental health care, internet interventions may appeal to many service members and veterans who would not otherwise seek help, and AD it provides confidential, non-stigmatizing support (Ruzek et al., 2011).

Although AD was developed as a self-care resource for service members and veterans, the Provider Portal has become one of the most visited areas of the website (Bush, Bosmajian, Fairall, McCann & Cuilla, 2011). Providers can improve upon their knowledge of PTSD, trauma, and military culture as well as access links to continuing education materials, training, and clinical practice guidelines developed by the VA (Ruzek et al., 2011). In this way, AD functions as a supplement to more traditional in-person therapy by assisting the providers in treating military service members. According to Bush et al. (2011), AD intends to add self-care resources for health care providers to address the problems of burnout and STS. However, the site does not appear to have incorporated these tools yet.

Afterdeployment.org undoubtedly has great potential to help military service members and mental health care providers. To ensure the site reaches its target audiences and provides the help it intends, ongoing formal evaluation will be necessary to recalibrate its efforts and improve upon the site's effectiveness.

Program Evaluation

Program evaluators are an essential component to any project team. Their assistance can assure that the milestones of a program and its ultimate goals are being met. Program evaluations ensure that the concerns and wishes of the interested and affected parties (i.e. stakeholders) are addressed using the best possible application processes and methodology (Morris, 2010). This is done through careful evaluation of the literature that pertains to the program or project, and then correctly applying this to the program that is being evaluated in

terms of the assessment of needs, the processes used to address these needs, the outcome of the application of these processes, the impact and outcome for the stakeholders, and in determining the fiscal requirements and plausibility of supporting the program financially. These responsibilities must be carried out with the utmost ethical standards in order to ensure the proper treatment of stakeholders and to offer meaningful contributions to the project (Taut & Brauns, 2003; Stake & Mabry, 1998; Morris, 2010).

Stakeholders

Stakeholder participation in the process of implementing a new program or in intervention method is a critical aspect and should be considered by any evaluator or program team (Van Voorhees et. al., 2007; Taut & Brauns, 2003, Morris, 2010). As with any team effort or project, conflicting ideas and hopeful outcomes may arise. Resistance may also be encountered throughout the evaluation process (Greene, 1988; Taut & Brauns, 2003), this is sometimes due to previous negative experiences in utilizing program evaluations and several different human aspects (e.g. conflicting power relations, conflicts of interest, and competition. Resistance may result in lack of utilization of the evaluation and it suggestions (Greene, 1988; Taut & Brauns, 2003). Greene (1988), maintains that stakeholder participation and utilization is one of the most important considerations for program developers and evaluators in order to maintain helpful evaluation practices and to ensure long term success of the project (Greene, 1988). Resistance can and should be overcome in the interest of the project outcome and in order to maintain sound practice. To ensure these two ideas, it is important to identify and entertain all stakeholder interests (Greene, 1988,Taut & Brauns, 2003). This practice allows for more powerful program outcomes.

Needs Assessment

Recent military operations in Iraq and Afghanistan have created a growing population of returning soldiers with mental health needs. Post-traumatic stress disorder (PTSD), depression, and substance abuse are among the common problems faced by returning soldiers. In an analysis of over 100,000 Operation Iraqi Freedom and Operation Enduring Freedom (OIF/OEF) veterans recently enrolled in Veteran's Association (VA) healthcare, approximately 25% received at least one mental disorder diagnosis; of these 25,000 veterans, 52% were diagnosed with PTSD, making it the most common health diagnosis in this population (Seal, Bertenthal, Miner, Sen & Marmar, 2007).

Process

Process evaluation aims to determine the extent to which the intervention is being delivered and implemented according to plan. During the development and implementation stages of the program , process evaluators use systematic measurement to assess how well the program is meeting its specified goals, the extent to which the program is reaching the intended target group, and how satisfied participants are with the program. Steckler and Linnan (2000) specified seven components to be measured and evaluated in process evaluations of public health interventions, including context, reach, recruitment, dose delivered, dose received, fidelity to treatment, and implementation.

Using the framework developed by Steckler and Linnan (2000), a review of process evaluations for workplace stress management interventions found that most commonly described components of program evaluation are recruitment, reach, dose received, and participants' attitudes toward the interventions (Murta, Sanderseon, & Oldenburg, 2007). Based on their findings, Murta et al., (2007) recommend obtaining support and involvement from managers and supervisors, for this factor was found to be related to better implementation of the stress

management intervention and increased likelihood of achieving the outcomes of interest. Additionally, Murta et al., suggest delivering a larger "dose" of the intervention at a time, promoting a warm and safe climate for those participating in the intervention, and frequently monitoring participants' attitudes toward the intervention and its effects. Van Voorhees et al. (2007) used similar process evaluation methodology in the development of an intervention program that utilized both primary care and internet components to prevent and treat depression in young adults.

South, Darby, and Bagnall (2010) used quantitative and qualitative research methods in their process evaluation of a community-based self-care training program. Qualitative methods, such as interviews and focus groups, can supplement quantitative outcome measures and lead to deeper understanding of the processes and contextual factors influencing outcomes. In assessing whether implementation is successful, reach and access are key components to consider, as well as the acceptability and appropriateness of the intervention with different stakeholder groups (South et al., 2010).

Outcome

Outcome evaluation involves use of statistical methods to determine treatment effectiveness on the target group. Quantitative outcome measures taken at different times before and after the intervention allows researchers to assess the extent to which the stakeholders change over time, presumably as a result of the intervention. In outcome evaluation, it is important to consider the design of the study, including design features such as including a control group for comparison, random assignment, pre and post-tests, and adequate sample size. Attrition is a common problem with online interventions, so it is crucial to anticipate attrition

when determining sample size and to maintain frequent contact with participants to keep them engaged (Chiu & Eysenback, 2010).

Outcome measures assess whether target goals have been achieved. Measures of STS, CF, and burnout for the SupportNet intervention are discussed in the section on measurement.

Impact

Impact evaluation examines both the intended and unintentional changes that can be attributed to the program or intervention. In addition to assessing the extent to which the intervention is responsible for the observed changes in the target group, impact evaluations also look at secondary and tertiary groups who are affected indirectly by the intervention. For example, secondary stakeholders affected by the SupportNet intervention would include the clients of the primary caregivers who participate. Also, the friends, family, and coworkers of the participants warrant consideration as well.

Evaluation of Internet Interventions

Although internet interventions continue to multiply, the guidelines for research and evaluating effectiveness of such interventions have lagged behind (Proudfoot et al., 2011). This rapidly expanding sphere of influence necessitates guidelines for evidence-based research and evaluation methods in order to advance as a science. To address this need, Proudfoot and colleagues developed a set of guidelines for the process and reporting of internet interventions research; these guidelines were formulated by iterative discussion resulting in consensus by the professional authors of the article with the intention of to serve as a basis for regulations to follow. Guidelines specific to program evaluation within this domain involve the areas of efficacy, efficiency, and effectiveness. Additional facets relevant to the evaluation of the SupportNet intervention will also be discussed including target population, model of change,

type and dose of intervention, program interactivity, multimedia channel of delivery, and degree of synchronicity.

Efficacy. In terms of efficacy of the intervention, it is necessary to include the psychometric properties of the measures utilized, outline the data collection procedures and the schedule of measurements implemented, describe the type of data analyses conducted, and report the study's findings and conclusions drawn. Regarding the participants in the sample, the characteristics of the sample need to be provided, comparison groups defined, and details of sample attrition at each measurement time and details of participants' adherence or non-adherence should be provided when relevant (Proudfoot et al., 2011). Process measures, such as usage, traffic, and attrition provide key information for analyzing user behavior, delivery mechanisms, systematic attrition, and outcomes (Christensen, Griffiths, & Farrer, 2009).

Effectiveness. In assessing effectiveness, researchers should report routine outcome measurements, participants' adherence to the intervention, and information about the generalizability of intervention's effectiveness in a real world context (Proudfoot et al., 2011). Indices of an intervention's effectiveness include improvements in users' symptoms, behavior, functioning and quality of life (Proudfoot). The SupportNet project will measure burnout, STS, CF, CS, perceived social support, and quality of life using some of the measures discussed later in this review. In addition to these quantitative measures of effectiveness, qualitative methods may be necessary to enrich the information provided by the quantitative analyses. Proudfoot et al. urge researchers to recognize additional complexities including participant preferences, selection biases, differential dropout rates, and the appropriate use of quantitative and qualitative methods.

Efficiency. One reason internet interventions have grown so rapidly is their relatively low cost to develop and disseminate. In considering the cost-to-benefit ratio, internet interventions have the potential to benefit a large sample of individuals at a relatively low cost. Having professional support who respond to participant inquiries or provide live chat support would add to the cost of an intervention, but it increases the synchronicity and interactivity components discussed below.

Target population. The target population should be defined in terms of demographic factors, symptoms or problem area, psychological indices (e.g. self-efficacy, motivation, and locus of control), and technological considerations (e.g. computer ability) (Proudfoot et al., 2011). For the SupportNet project, key demographic factors would include age, gender, education level, years experience in the field, trauma training, and personal experience with trauma. The symptoms or problem area include burnout, STS and CF as defined previously.

Another related facet is the audience reach, which refers to the accessibility of the intervention; the way by which participants access the intervention must be clearly defined as well as eligibility and exclusion criteria (Proudfoot et al., 2011). An additional consideration for internet interventions is readiness for mass dissemination, including information about the capacity for the program to be released on a larger scale and reach a wider audience (Proudfoot et al., 2011).

Model of change. The specific process variables for therapeutic change will depend on the theoretical basis for a given intervention. The SupportNet intervention intends to utilize social cognitive theory as a framework for providing benefits to primary caregivers within the military. As outlined in its proposal, the SupportNet project aims to promote therapist

empowerment and resilience by improving environmental support, self-efficacy in coping, and specific coping skills (SupportNet proposal).

Type and dose of intervention. Proudfoot et al. (2011) recommend that the type and frequency of the intervention be clearly stated (the prescribed and actual frequency of use of the site and the modules within it), whether users can track their progress and receive feedback, and whether the intervention is adjusted to meet individual needs. In addition, it should be made clear whether the measures used in the intervention have been validated for online administration.

Program interactivity. Interactivity in an online intervention includes providing feedback and tailoring content to individual users, active participation as opposed to passive user behavior, increased user control and involvement in decision making, and real-time responsiveness (synchronicity); theoretically, higher levels of interactivity should improve learning, motivation and adherence which enhances the impact of the intervention (Walther, Pingree, Hawkins, & Buller, 2005). Some examples of interactive elements include interactive exercises, self-monitoring data, tailored feedback, discussion groups or chat rooms, questions and answers, action planning, and questionnaires or quizzes (Proudfoot et al., 2011).

Delivery modality. Various multimedia channels may be utilized in delivery of internet interventions to enhance user engagement, and the channels of delivery chosen should correspond to the target users' characteristics, computer literacy, motivation and learning style, as well as treatment readiness (Proudfoot et al., 2011). Several channels of delivery include audio, video, email correspondence and support, live chat, texts, mobile phone applications, 3-D virtual reality environments, and chat rooms or discussion groups.

Synchronicity. The degree of synchronicity refers to the timing and responsiveness in communication, feedback and support from professional clinicians, other users, or from the program itself (Proudfoot et al., 2011). Synchronous communication is immediate, such as real-time chat via Skype or some similar programs. Asynchronous communication is delayed, such as email responses and blogs or forums. In planning an internet intervention, it is important to clearly report the synchronicity of support and feedback to the users and analysis.

Adherence. Dropout is of particular concern for web-based intervention research, for attrition can undermine the statistical power of the results and the generalizability of the study. Adherence measures the extent to which participants follow the intervention as intended. Ways to increase adherence and reduce attrition include sending reminders to participants and improving upon the interactivity of the program (discussed previously). In a study of a self-guided CBT e-therapy for depression, Christensen, Griffiths, Korten, Brittcliffe, & Groves (2004) found that weekly tracking and reminders reduced attrition. Quantitative measures of adherence include number of logins, completed modules or activities, visits and posts to forums, and self-reported completion of activities in daily life away from the program (Donkin, et al., 2011). In their review of e-therapies, Donkin et al., concluded that module completion was most consistently related to outcomes in psychological health interventions, and number of logins was most related to outcomes in physical health interventions. Tracking participant usage of the site is a crucial component in the development and ongoing process evaluation of web-based interventions.

Evaluation of Interventions for Caregivers

There are few empirical studies that evaluate interventions related to burnout, compassion fatigue and secondary traumatic stress for all job types, and none have been found to date that

evaluate these types of programs within the military. The intervention programs described previously have limited empirical support and evaluations of these programs seem to be nonexistent.

There is a striking lack of evaluation of military mental health interventions, and virtually no evaluations of interventions aimed at reducing caregiver CF and burnout. One evaluation has focused on meditation and mindfulness practices as a means of support for military care providers (Duerr, 2008). Another intervention aimed to treat military personnel struggling with alcoholism (Pemberton et. al, 2011). The lack of evaluations in military care settings requires urgent attention. Evaluation can accelerate the development and improvement of programs in order to provide service members and their caregivers with the support they deserve, which is empirically-based support that has proven successful outcomes.

Meditation and Mindfulness Practices. Integrating results from 45 selected articles, mindfulness and meditation practices by care providers has empirically shown significant benefits in four main areas: reduction in anxiety and depression, reduction in other burnout symptoms, increases in compassion and self-compassion, and impact on professional skills (Duerr, 2008). The evaluation of the studies that resulted in diminished burnout symptoms and higher levels of compassion for others, self-compassion, and empathy may be of particular relevance to development of the SupportNet program. While Duerr (2008) provides a strong case for the benefits of mindfulness and meditation practices in general, it is critical to note that the studies included in her research did not focus on psychologists treating military clients.

The evaluation notes five elements that contribute to the prevention and treatment of burnout and compassion fatigue, including compassion and self-compassion, resilience, self-awareness, meta-cognition and attention, and meaning (Duerr, 2008). Self-awareness includes

self-care. These elements also coincide with the theory of improving one's coping self-efficacy. In considering how to implement mindfulness and meditation based practices as an intervention to military caregivers, Duerr concludes that a support system is of the utmost importance in helping military providers and functions to optimize the positive effects of any intervention.

Program Evaluation within the Military

There is a paucity of empirical research related to military mental health interventions, and none of the military interventions previously discussed have been formally evaluated. In order to effectively prevent and treat mental health problems within the military, empirical research and evaluation is currently needed. Two internet interventions aimed at reducing alcohol problems within the military are discussed as well as a CBT self-help site to enhance self-care and adaptive coping.

Web-Based Military Alcohol Abuse Intervention. Two web-based interventions aimed at curbing alcohol abuse and dependency (i.e. Alcohol Savvy and Drinkers Check-Up) were evaluated by Pemberton, et al. (2011) and found to be effective in attaining their program outcome goals of reducing alcohol intake. Both of these programs were originally designed to help civilians struggling with alcohol problems, but they were later adopted by the military. The Program for Alcohol Training, Research, and Online Learning (PATROL) was created in order to evaluate web-based interventions in the military (Pemberton, et al., p. 481).

To evaluate these programs the PATROL team recruited participants from almost all branches of the military (e.g. Army, Navy, Air Force, Marine Corps) through recruitment tables, fliers, posters and in some cases, television advertisements and ended up with 4,281 total service members registering for the study, 3,889 of which completed the baseline measure, 1,369 of

those service members came to the one month follow up, down to only 913 at the six month follow up (Pemberton et al., p. 481). The evaluators attribute this high attrition rate to frequent deployments possible view of lack of incentive to participate in follow ups.

Even give their large sample and attempt to include all military branches, their response rate for the Army (5%) and Marines (16%) was much smaller than that of the Air Force (36%) and Navy (44%) (Pemberton et al., p. 481). This is problematic in terms of much of the active duty personnel being excluded which may result in inaccurate results. Alcohol Savvy is an alcohol "misuse prevention program" that is narrated and contains audio, video and interactive components and is meant to educate and assess alcohol misuse (Pemberton et al., p. 482). Drinkers Check-Up is a motivational intervention operating on a person centered philosophy that is meant to educate the user about their negative drinking habits and empower them to make changes. Random assignment of participants to groups (Drinkers Check-Up, Alcohol Savvy, and delayed treatment group) was done when possible; this was not possible at all installations. The outcomes of the treatments were measured at baseline, one month, and six months by using multiple measures.

To analyze the efficacy of the two interventions, the evaluators employed a "piecewise longitudinal growth model" in order to analyze two separate representations of change (Pemberton et al., p. 483). One being the change between the baseline and one month follow up, the other examined the change between the one month and six month follow up. A significant decrease ($p = .053$) was seen in the problem drinking behavior of those who participated in the Drinkers Check-Up compared to the control group, and the Alcohol Savvy ($p = .057$) intervention results neared but did not reach significance. While this evaluation is one of the first to evaluate a web based intervention designed for military populations it comes with several

previously discussed limitations that may have biased the results. More research is needed to assess the efficacy and long-term impact of such programs.

Stress Gym. In an attempt to assist Naval recruits deal with stress and ward off mental issues attributed to maladaptive coping, a cognitive-behavioral therapy (CBT) self-help intervention called Stress Gym was tested, implemented and reviewed (Williams et. al., 2010). The intervention Stress Gym was developed after an earlier CBT group therapy intervention (Williams et al., 2010). The authors of the article wished to evaluate Stress Gym only to determine whether or not, it and/or internet interventions in general, would be accepted and deployable among military populations.

The items assessed about the intervention included the participants' ideas about , "user interface, site usability, feasibility of using such a site, and their general satisfaction with the site" (Williams et al., pg.489). They were also allowed to include what they liked about the site at the end of these general ratings. The outcome of the evaluation determined that the web-based intervention was seen as useful and was feasibly in executing. While this is just a qualitative evaluation, there is still much that can be gained from the results. As with many other recent studies, these web-based treatments seem to have promising results (Sloan et al., 2011;Williams et al., 2010; Amstadter, Bromsn-Fulks, Zinzow, Ruggiero & Cercone, 2008; Van Voorhees et. al., 2007), however, there are still few evaluations of such programs, especially among military populations.

Need for Program Evaluation

Program evaluators may not always be viewed as important and could also sometimes be feared. It is easy to understand that people may become so focused on their program and their goals that they never actually stop to see if they are accomplishing what they set out to

accomplish. It has been documented that program staff are usually the ones who put forth the most resistance to evaluators starting with those who have the most commitment to the project. This resistance is said to be due to the reactance of the program staff and power struggles when trying to take into account the needs of all stakeholders (Taut & Brauns, 2003).

Program evaluations can be a great tool for anyone wishing to start a new program or determine the effectiveness of an existing program; they are the check and balance system. Assuring that everyone that has a stake in the project is accounted for and addressed and that all objectives are being met with the best possible instruments and methods used. Evaluators have no vested interest in the project and therefore may be able to be more objective. Evaluators should be viewed as less of a threat and rather as essential piece to any program development team.

When applying these ideas to the SupportNet project evaluation, it is crucial that the identifiable stakeholders include the project team, clinicians, other employees that work with the clinicians, military chain of command, soldiers employing the clinician's services, and their families. After conducting a thorough needs assessment that is all inclusive of the population that will be utilizing SupportNet (e.g. Military Clinical psychologist, Counselors, Caregiver), a focus group should be conducted to identify all concerns and hopeful outcomes of previously stated stakeholders. This is the best way to ensure that all issues will be addressed in the projected outcome.

Measures

The following measures have been proposed for use in the initial needs assessment, process evaluation, and outcome evaluation for the SupportNet project. In the initial needs assessment, these measures will be used to determine baseline rates of the presence of burnout,

STS, and CF in military caregivers. Then, the same measures will be used to determine if the intervention leads to decreases in burnout, STS, and CF as hypothesized.

Maslach Burnout Inventory (MBI). The tool most often used to assess burnout is the Maslach Burnout Inventory (MBI). The MBI consists of three different factors that are meant to measure burnout; emotional exhaustion, depersonalization and personal accomplishment. In an evaluation of the MBI using hospital staff (n = 445), researchers found that the MBI did test mostly for emotional exhaustion, followed by depersonalization and weakly identified personal satisfaction (Kalliath, T. J., O'Driscoll, M. P., Gillespie, D. F., & Bluedorn, A. C. (2000). The MBI has been criticized by some for being poorly worded and relying on underdeveloped concepts.

Oldenburg Burnout Inventory (OLBI). Besides the MBI the Oldenburg Burnout Inventory (OLBI) also tests for burnout. Some claim this to be a better measure of burnout due to the shortcomings of the MBI. The OLBI is similar to the MBI but the two differ in several ways, first, the OLBI only consists of two scales as opposed to the MBI's three, the two scales of the OLBI are exhaustion and disengagement. The questions are said to be balanced by positive and negatively worded questions. Exhaustion is represented on the OLBI in both the physical and mental meanings. Some questions remain however on whether or not the OLBI in its translations is still as strong of a measure (Halbesleben & Demerouti, 2005).

Professional Quality of Life Scale (ProQOL). The ProQOL measures two subscales of compassion fatigue: burnout and secondary traumatic stress. In addition, the ProQOL measures a third subscale, compassion satisfaction (CS), which refers to the positive effects that caregivers experience from trauma work (Stamm, 2010). Feeling rewarded and fulfilled by one's profession and feeling good about helping others contribute to CS measure (Stamm).

Based on their research surveying 1,121 mental health providers, Sprang, Clark and Whitt-Woosely (2007) found that participants who had previously received specialized trauma training scored significantly lower on compassion fatigue and higher on compassion satisfaction as measured by the ProQOL. The results suggest that knowledge and training may help to shield against some of the negative effects of trauma therapy (Sprang et al., 2007). Taken one step further, Sprang et al., theorize that specialized training enhances clinician self-efficacy by improving their skills in assessment and treatment of trauma patients and therefore leading to improved outcomes. Consequently, specialized trauma training is recommended to reduce levels of CF and burnout and to enhance CS (Sprang, et al.).

The ProQOL given at multiple points in time will function to measure the extent to which the SupportNet program succeeds in its goals of reducing STS and burnout as well as enhancing CS.

Secondary Traumatic Stress Scale (STSS). The STSS is a self-report measure consisting of 17 statements related to STS symptoms, and responses indicate the frequency experiencing each symptom on a Likert-type scale ranging from 1 (never) to 5 (very often) (Bride et al., 2004). The STSS is designed to measure current, rather than cumulative, exposure to traumatized clients, since the responses indicate frequency of experiencing each symptom within the past seven days. There are three subscales to categorize the three types of symptoms, intrusion, avoidance and arousal. The STSS is a useful tool in evaluating strategies designed to reduce STS (Bride et al., 2004).

Compassion Fatigue-Short Scale. The Compassion Fatigue- Short Scale (CF-Short Scale; Adams, et al., 2006) shortens and improves upon the Compassion Fatigue Scale (Figley, 1995). Compared to its predecessors, the CF- Short Scale has fewer questions (only 13 compared

to 30) and has improved validity and reliability (Adams, et al.). To clarify the definitions of STS, burnout, and CF, the CF- Short Scale includes subscales for burnout and STS, and it produces an overall CF score that is highly correlated with the original CF Scale measure (Adams, et al.).

Conclusions

There has yet to be sufficient empirical research evaluating interventions for treating STS, CF and burnout in military caregivers. Evaluation of current programs is of particular importance as psychologists and other helping professionals are faced with an overwhelming number of military patients suffering from PTSD and related mental disturbances. Appropriate planning and reassessment of current efforts is needed in order for progress to be made in a timely and efficient manner.

Following from Figley's model of CF, treatment should include educational information about CF, desensitization to traumatic stressors in order to strengthen one's ability to cope with them, and a combination of exposure and relaxation exercises (Figley, 2002). Additionally, social support enhances a therapist's ability to cope and is considered another vital component to treatment (Figley, 2002). Thus, in treating CF it is important to assess and enhance the therapist's social support system (Figley). The SupportNet intervention should provide online tools for mental health providers to learn about CF and ways to prevent it. Empowering clinicians with information and promoting specialized training will likely help to prevent or reduce burnout and CF.

Consistent with Figley's (2002) assertion that social support is a vital component for treating CF, the SupportNet intervention provides additional social support within the mental health community. The SupportNet project plans to integrate skills training, helpful tools, and

social support through an interactive social networking platform. Empowering caregivers with skills related to their profession, skills to improve their self-care, and social support has the potential to provide significant benefits to primary caregivers at risk for CF and burnout.

Based on research to date on evaluating internet interventions, some important components to consider in the development of the SupportNet project include target population, program interactivity, synchronicity, and adherence. Related to target population and adherence, involving stakeholders in the development of the project may facilitate reaching the intended target groups as well as increase the likelihood of continued participation in the project (reduce dropout rate) due higher stakeholder investment in the process. Additionally, the inclusion of stakeholders in the development of the project would allow the intervention to be tailored to meet their identified needs. In developing the component of the SupportNet site, it will be important to define the "doses" of the intervention and the modality through which they are delivered, and to specify goals related to the degree of interactivity and synchronicity intended. To measure participant behavior and interactivity with the website, it would be beneficial to track participants' activity and usage, including user logins, time spent, and navigation (clicks) within each module or component of the site. Also, a built-in feedback system for participants to rate and provide comments on the perceived usefulness of component would provide useful data for ongoing process evaluation.

References

Amstadter, A. B., Broman-Fulks, J., Zinzow, H., Ruggiero, K. J., & Cercone, J. (2009). Internet-based interventions for traumatic stress-related mental health problems: A review and suggestion for future research. *Clinical Psychology Review*, *29*(5), 410-420.

Benight, C. C., Ruzek, J. I., & Waldrep, E. (2008). Internet interventions for traumatic stress: A review and theoretically based example. *Journal of Traumatic Stress*, *21*(6), 513-520.

Berger, R., & Gelkopf, M. (2011). An intervention for reducing secondary traumatization and improving professional self-efficacy in well baby clinic nurses following war and terror: A random control group trial. *International Journal of Nursing Studies*, *48*(5), 601-610. doi:10.1016/j.ijnurstu.2010.09.007

Glasberg, A. L., Eriksson, S. S., & Norberg, A. A. (2007). Burnout and 'stress of conscience' among healthcare personnel. *Journal of Advanced Nursing*, *57*(4), 392-403. doi:10.1111/j.1365-2648.2007.04111.x

Greene, J. G. (1988). Stakeholder participation and utilization in program evaluation. *Evaluation Review*, *12*(2), 91-116. doi:10.1177/0193841X8801200201

Halbesleben, J. B., & Demerouti, E. (2005). The construct validity of an alternative measure of burnout: Investigating the English translation of the Oldenburg Burnout Inventory. *Work & Stress*, *19*(3), 208-220. doi:10.1080/02678370500340728

Kalliath, T. J., O'Driscoll, M. P., Gillespie, D. F., & Bluedorn, A. C. (2000). A test of the Maslach Burnout Inventory in three samples of healthcare professionals. *Work & Stress*, *14*(1), 35-50. doi:10.1080/026783700417212

Killian, K. D. (2008). Helping till it hurts? A multimethod study of compassion fatigue, burnout, and self-care in clinicians working with trauma survivors. *Traumatology*, *14*(2), 32-44. doi:10.1177/1534765608319083

Le Blanc, P. M., Hox, J. J., Schaufeli, W. B., Taris, T. W., & Peeters, M. W. (2007). Take care! The evaluation of a team-based burnout intervention program for oncology care providers. *Journal Of Applied Psychology*, *92*(1), 213-227. doi:10.1037/00219010.92.1.213

Lee, J., Lim, N., Yang, E., & Lee, S. (2011). Antecedents and consequences of three dimensions of burnout in psychotherapists: A meta-analysis. *Professional Psychology: Research and Practice*, *42*(3), 252-258. doi:10.1037/a0023319

Linnerooth, P. J., Mrdjenovich, A. J., & Moore, B. A. (2011). Professional burnout in clinical military psychologists: Recommendations before, during, and after deployment. *Professional Psychology: Research and Practice*, *42*(1), 87-93. doi:10.1037/a0022295

Meldrum, H. (2010). Exemplary physicians' strategies to avoiding burnout. *The Health Care Manager*, *29*(4), 324-331.

Morris, M. (2010). The Good, the Bad, and the Evaluator: 25 Years of AJE Ethics. *American Journal of Evaluation. 32*(1). 134-151. DOI: 10.1177/1098214010388267

Newell, J. M., & MacNeil, G. A. (2010). Professional burnout, vicarious trauma, secondary traumatic stress, and compassion fatigue: A review of theoretical terms, risk factors, and preventive methods for clinicians and researchers. *Best Practices in Mental Health: An International Journal*, *6*(2), 57-68.

Pemberton, M. R., Williams, J., Herman-Stahl, M., Calvin, S. L., Bradshaw, M. R., Bray, R. M., & ... Mitchell, G. M. (2011). Evaluation of two web-based alcohol interventions in the U.S. military. *Journal of Studies on Alcohol and Drugs*, *72*(3), 480-489.

Taut, S., & Brauns, D. (2003). Resistance to evaluation. *Evaluation*, *9*(3), 247-264.

Williams, R., Hagerty, B. M., Brasington, S. J., Clem, J. B., & Williams, D. A. (2010). Stress Gym: Feasibility of deploying a web-enhanced behavioral self-management program for stress in a military setting. *Military Medicine*, *175*(7), 487-493.

Adams, Boscarino & Figley (2006)

Boone, Camarillo, Landry & DeLucia, 2008). Army Provider Resiliency Training.

Bride, Robinson, Yegedis & Figley (2004)

Christensen, Griffiths, Korten, Brittcliffe, & Groves (2004)

Duerr (2008). The use of meditation and mindfulness practices to support military care providers.

Donkin, Christianse, Naismeth, Neal, Hickie, & Glozier (2011)

Bush, Bosmajian, Fairall, McCann, & Ciulla (2011)

Figley (1995)

Figley (1999)

Figley (2002)

Gentry & Schmidt (1996)

Gentry & Baranowsky (2002)

Gentry, Baggerly, Baranowsky (2004)

Accelerated Recovery Program. Gentry, Baranowsky & Dunning. Presented at the: Thirteenth Annual International Society for Traumatic Stress Studies Conference, Queen Elizabeth Hotel Montreal, QB, CAN November 9, 1997

Hoge, Castro, Messer, McGurk, Cotting, & Koffman (2004)

Hirai, M., & Clum, G. A. (2005). An internet-based self-change program for traumatic event related fear, distress and maladap- tive coping. Journal of Traumatic Stress, 18, 631–636.

Litz, B. T., Bryant, R., Williams, L., Wang, J., & Engel, C. C. (2004). A therapist-assisted internet self-help program for traumatic stress. Professional Psychology, Research and Practice, 35, 628–634.

Litz, B., Engel, C., Bryant, R., & Papa, A. (2007). A randomized, controlled proof-of-concept trial of an internet-based, therapist- assisted self-management treatment for Posttraumatic Stress Disorder. American Journal of Psychiatry, 164, 1676–1683.

Lange, A., van de Ven, J., Schrieken, B., & Emmelkamp, P. (2001). Interapy. Treatment of posttraumatic stress through the internet: A controlled trial. Journal of Behavior Therapy and Experimen- tal Psychiatry, 32, 73–90.

McCann & Pearlman (1990)

Murta, Sanderseon, and Oldenburg (2007)

Pearlman & MacIan (1995)

Pearlman & Saakvitne (1995)

Proudfoot 2011

Proudfoot, J., Klein, B., Barak, A., Carlbring, P., Cuijpers,P.,

Lange A., Ritterband, L. & Andersson, G.. (2011): Establishing Guidelines for Executing and Reporting Internet Intervention Research. *Cognitive Behaviour Therapy*, 40:2, 82-97

(Ruzek, Hoffman, Cuilla, Prins, Kuhn & Gahm, 2011).

Seal, Bertenthal, Miner, Sen & Marmar (2007).

Sloan, Gallagher, Feinstein, Lee and Pruneau (2011)

Sloan, D. M., Gallagher, M. W., Feinstein, B. A., Lee, D. J., & Pruneau, G. M. (2011). Efficacy of telehealth treatments for posttraumatic stress-related symptoms: A meta-analysis. *Cognitive Behaviour Therapy*, *40*(2), 111-125. doi:10.1080/16506073.2010.550058

Sprang, Clark, & Whitt-Woosley (2007)

Stake, R. and Mabry, L. (1998), Ethics in program evaluation. International Journal of Social Welfare, *7*. 99–109. doi: 10.1111/j.1468-2397.1998.tb00209.x

Van Voorhees, B. Ellis, J. M., Gollan, J.K., Bell, C. C., Stuart, S.S., Fogel, J., Corrigan, P. W., and Ford, D. E.. (2003). *Primary Care Companion Journal of Clinical Psychiatry*. 2007; *9*(5): 346–355.

Voss Horrell, Holohan, Didion, & Vance, 2011.

Walther, Pingree, Hawkins, & Buller (2005)

Wilson (2008)

Appendix VI

Time 1 Survey

University of Colorado
Colorado Springs

Trauma, Health & Hazards Center

Dear Military Mental Health Providers,

No one knows the challenges of your work better than you. There are many who need your dedication, professionalism, knowledge, and experience.

As Mental Health Providers working with military personnel, you do your part of an unwritten social contract: You give back to the military community what we have all received from each soldier serving our country.

Now it is time to support you in your work.

The SupportNet program, sponsored by the US Army Medical Research and Materiel Command, Telemedicine & Advanced Technology Research Center (TATRC) and in connection with the Trauma Health and Hazards Center at the University of Colorado at Colorado Springs, was designed to better understand your everyday work challenges and to establish a network of support that can serve and help you in your important and challenging work.

Today, we, the researchers and military trauma specialists, are inviting you to create that support system with us. The first step is the initial needs assessment and evaluation of the burdens and benefits related to your work.

Please complete the survey and help us to help you.

Prof. Charles Benight, PhD
Director
Trauma, Health, and Hazards Center
University of Colorado at Colorado Springs

Valerie Anderson, PsyD
Military Trauma Specialist
Clinical Director
Trauma, Health, and Hazards Center
University of Colorado at Colorado Springs

Informed Consent: Please Read Before Proceeding

TITLE OF STUDY: SupportNet for Frontline Providers: Secondary Trauma and Burnout Evaluation.

SPONSORSHIP: This study is funded through the Department of Defense Telemedicine and Advanced Technology Research Center.

FOR QUESTIONS ABOUT THE STUDY, CONTACT: Charles Benight Ph.D., 1420 Austin Bluffs Parkway, Colorado Springs, CO 80918, (719) 255-4180.

PURPOSE: You are invited to participate in a study on current coping levels of mental health providers working with military personnel. Your participation is specifically requested because you are currently providing mental health treatment to military personnel (active or retired). Participation is completely voluntary.

DESCRIPTION: A total of approximately 250 providers who are currently working with active duty or retired military personnel will be recruited into the study. If you decide to participate, the procedure for this study includes completing a series of questionnaires now and then again in 6 months. The questions are presented through a website called Survey Monkey and focus on your coping with work related stress. We request that you complete the survey within 2 weeks. The questions specifically address the challenge of working with combat trauma patients. You are free to not complete the following questionnaire. If you choose to complete the questions you are voluntarily consenting to do so. The completion time is approximately 25 to 35 minutes for the set of questions. We will email you in 6 months to remind you to complete the questions for the second time.

TIME INVOLVEMENT: Your time involvement will be approximately 25 to 35 minutes to complete survey. You will be asked to complete it now and then again in 6 months for a total time commitment of 1 to 1.25 hours.

ALTERNATIVE: Because this study is designed to collect information for research and not designed to benefit you directly, your alternative is to not participate.

BENEFITS: There is no direct benefit to you for participating in this research. The results of the study may provide valuable information concerning how mental health providers who are working with our active duty or retired military are coping with the stress associated with this work. This may help in planning support services to these providers.

RISKS: There is a chance that you will experience some emotional discomfort from answering questions related to how you are currently coping with your work. There are no physical risks involved in this study.

PAYMENTS: In accordance with DOD policy, there will be no payment for participation in this study.

COSTS: There will be no cost to you for participating in this study.

CONFIDENTIALITY: All study data will be stored on secure servers with extensive security features and backup systems. All information regarding this study is kept confidential and used only by designated members of the research team. Representatives from the University of Colorado at Colorado Springs and/or the U.S. Army Medical Research and Materiel Command (or the DOD) are authorized to review research records as part of their duty to protect human participants involved in research. Your data will be given a participant identification number. Your email identification will not be attached to any data but is necessary for us to link your time 1 and time 2 information. All computerized data will be password protected so that no one but the research team will have access to these data. The computerized data will be stored on a secured server at the university for 7 years. Published data will only refer to group comparisons and never to you individually.

Health Insurance Portability and Accountability Act (HIPAA). No private medical information will be collected in this study.

RIGHT TO WITHDRAWAL: Your participation in this study is completely voluntary. You are free to withdraw at any time. Refusal to participate will involve no penalty or loss of benefits, and you may withdraw at any time without penalty or loss of benefits.

DO I HAVE TO ACCEPT THIS AUTHORIZATION FORM? At the end of this form you will have the option to 'Accept' or 'Decline'. You do not have to 'accept' this authorization form. But if you do not, you will not be able to participate in this research study.

WILL MY DECISION TO ACCEPT OR DECLINE THIS STUDY HAVE ANY AFFECT ON MY EMPLOYMENT? No.

SUBJECT'S RIGHTS: You are free not to participate in this study. Your decision whether or not to participate will not affect your employment status. If you wish to participate in this study, you must indicate at the end of this document that you wish to proceed by clicking "I accept". If you decide to participate, you are free to withdraw your consent, including your authorization regarding the use and disclosure of your health information, and to discontinue participation at any time without prejudice to you. If you decide to withdraw, we ask that you notify Dr. Benight in writing and let him know that you are withdrawing from the study. His emailing address is benight@uccs.edu.

If you have disturbing thoughts or strong distress while completing this survey, please call one of our therapists at (719) 255-3764 or (719) 255-3763 or use our toll-free number (800) 990-8227 and ask for extension 3764 or 3763.

QUESTIONS: If you have any questions regarding your participation in this study you should contact Dr. Charles Benight at (719) 255-4180 or use our toll-free number (800) 990-8227 and ask for extension 4180. You may also contact the Chairperson of the Institutional Review Board at the University of Colorado at Colorado Springs at (719) 255-4150 or use our toll-free number (800) 990-8227 and ask for extension 4150

It is suggested that you print a copy of this form for your records.

Thank you. Your assistance with this research study is appreciated.

***After reading the Informed Consent Form do you want to take part in the study?**

◯ Yes (Accept) ◯ No (Decline)

***If you accept participation in this study, please provide a valid e-mail address below**

CLICKING "ACCEPT" INDICATES THAT YOU HAVE READ AND UNDERSTAND THE ABOVE INFORMATION, THAT YOU HAVE DECIDED TO PARTICIPATE BASED ON THE INFORMATION PROVIDED, AND THAT YOU HAVE BEEN ABLE TO ACCESS A COPY OF THIS FORM BY PRINTING IT FOR YOUR RECORDS.

Background Information

Please reply to the following questions. Your answers will help us learn more about who completed the survey.

Gender

- ◯ Male
- ◯ Female

In what state or U.S. territory do you live?

If not in the U.S., in what country do you live?

In what year were you born? (enter 4-digit birth year; for example, 1976)

In what month were you born?

How many years of formal education do you have (from kindergarten to higher education)?

Current relationship status:

- ◯ Long-term committed relationship (e.g., married or domestic partner)
- ◯ Not in a relationship

What is the highest level of school you have completed or the highest degree you have received?

- ◯ High school graduate
- ◯ Some college
- ◯ Associate's degree
- ◯ Bachelor's degree
- ◯ Master's degree
- ◯ Doctorate or professional degree

Major job activities (check all that apply):

- [ ] Case management
- [ ] Nursing
- [ ] Medication management
- [ ] Emergency crisis intervention
- [ ] Psychotherapy/Counseling
- [ ] Spiritual support
- [ ] Clinical supervision for mental health professionals
- [ ] Psychological or psychiatric assessment

Other (please specify)

What is your primary professional role?

- ◯ Psychiatrist
- ◯ Medical doctor (MD, DO)
- ◯ Clinical psychologist
- ◯ Physician assistant
- ◯ Counselor or psychotherapist
- ◯ Social worker
- ◯ Clinical or psychiatric social worker
- ◯ Registered nurse
- ◯ Psychiatric or mental health nurse practitioner
- ◯ Behavioral analyst
- ◯ Expressive or art therapist
- ◯ Chaplain
- ◯ Family advocate

Other (please specify)

If you provide therapy, what approach do you use? (check all that apply)

- [ ] DOES NOT APPLY
- [ ] CBT - Cognitive Behavioral Therapy
- [ ] CPT - Cognitive Processing Therapy
- [ ] PE - Prolonged Exposure
- [ ] EMDR - Eye Movement Desensitization and Reprocessing
- [ ] Stress inoculation therapy
- [ ] Group therapy
- [ ] Brief psychodynamic psychotherapy
- [ ] Interpersonal therapy
- [ ] Family therapy

Other (please specify)

Which of the following categories best describes your employment status?

- ◯ Working 1-19 hours per week
- ◯ Working 20-39 hours per week
- ◯ Working 40 or more hours per week
- ◯ Not employed, looking for work
- ◯ Not employed, NOT looking for work
- ◯ Retired, not working
- ◯ Disabled, not able to work

Type of employment (check all that apply):

- ☐ Employee of a for-profit company or business or of an individual, for wages, salary, or commissions
- ☐ Employee of a not-for-profit, tax-exempt, or charitable organization
- ☐ Local government employee (city, county, etc.)
- ☐ State government employee
- ☐ Federal government employee or active duty military
- ☐ Individual private practice
- ☐ Group private practice
- ☐ Working without pay

Other (please specify)

Current military status:

- ◯ Active duty military
- ◯ Reserves or National Guard
- ◯ Retired or former military
- ◯ No military service

Have you ever been deployed to a combat zone?

- ◯ Yes
- ◯ No

How many years of experience do you have as a mental health professional?

How many active patients do you have in your caseload?

Active duty military patients:

Reserves or National Guard patients:

Retired or former military patients:

Military family members:

Non-military patients:

How many hours of clinical supervision or consultation do you receive each month?

Individual clinical supervision or consultation:

Group clinical supervision or consultation:

Are you working in an embedded team?

- ◯ Yes
- ◯ No
- ◯ I do not know

What is your current duty station?

ICAWS

For each question below, indicate how often you experienced interpersonal conflicts at work during the PAST MONTH.

	Less than once per month or never	Once or twice per month	Once or twice per week	Once or twice per day	Several times per day
How often do you get into arguments with others at work?	◯	◯	◯	◯	◯
How often do other people yell at you at work?	◯	◯	◯	◯	◯
How often are people rude to you at work?	◯	◯	◯	◯	◯
How often do other people do nasty things to you at work?	◯	◯	◯	◯	◯
How often does your responsibility for the patient conflict with the responsibilities of your job?	◯	◯	◯	◯	◯

OCS

The following items relate to organizational constraints at your work during the PAST MONTH.

How often are you constrained by:

	Less than once per month or never	Once or twice per month	Once or twice per week	Once or twice per day	Several times per day
Poor equipment or supplies.	◯	◯	◯	◯	◯
Organizational rules and procedures.	◯	◯	◯	◯	◯
Other employees.	◯	◯	◯	◯	◯
Your supervisor.	◯	◯	◯	◯	◯
Lack of equipment or supplies.	◯	◯	◯	◯	◯
Inadequate training.	◯	◯	◯	◯	◯
Interruptions by other people.	◯	◯	◯	◯	◯
Lack of necessary information about what to do or how to do it.	◯	◯	◯	◯	◯
Conflicting job demands.	◯	◯	◯	◯	◯
Inadequate help from others.	◯	◯	◯	◯	◯
Incorrect instructions.	◯	◯	◯	◯	◯
Too much paperwork.	◯	◯	◯	◯	◯
Too many patients.	◯	◯	◯	◯	◯

QWI

Describe your work during the PAST MONTH. Please indicate your answer for each question:

	Less than once per month or never	Once or twice per month	Once or twice per week	Once or twice per day	Several times per day
How often does your job require you to work very fast?	◯	◯	◯	◯	◯
How often does your job require you to work very hard?	◯	◯	◯	◯	◯
How often does your job leave you with little time to get things done?	◯	◯	◯	◯	◯
How often is there a great deal to be done?	◯	◯	◯	◯	◯
How often do you have to do more work than you can do well?	◯	◯	◯	◯	◯
How often do you have less work than you would like to have?	◯	◯	◯	◯	◯

STES

Thinking back on your professional career, please answer "Yes" to the events to which YOU WERE EXPOSED THROUGH YOUR WORK WITH PATIENTS. Then indicate the impact that hearing about this event has had on you.

TYPES of traumatic events:

	INDIRECT exposure to event	Impact on you
1. Natural disaster (e.g., flood, hurricane, tornado, wildfire, earthquake).	☐	☐
2. Transportation accident (e.g., car accident, train accident, plane crash).	☐	☐
3. Other serious accident (e.g., fire, explosion, building collapse).	☐	☐
4. Physical assault (e.g., being attacked, hit, shot, stabbed).	☐	☐
5. Sexual assault (e.g., rape or attempted rape, unwanted sexual experience)	☐	☐
6. Other life threatening crime (e.g., home invasion, hostage situation)	☐	☐
7. Military combat or exposure to a war-zone.	☐	☐
8. Life-threatening illness or injury of your client or someone close.	☐	☐
9. Sudden, unexpected death of someone close.	☐	☐
Any other stressful event or experience.	☐	☐

If yes, specify the traumatic event:

How many of the TYPES of traumatic events listed above have you PERSONALLY experienced?

○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ All

During your entire professional career, how many of your patients experienced at least one of the above events

○ None ○ 1 or 2 ○ 10 or less ○ 50 or less ○ 100 or less ○ A few hundred ○ A few thousand

During your entire professional career, how frequently have you worked with patients who experienced at least one of the above events

○ Never ○ A few days in a year ○ One day a month ○ A few days a month ○ One day a week ○ A few days a week ○ Every day

How often did you discuss these patients with your colleagues?

◯ Never ◯ A few days in a year ◯ One day a month ◯ A few days a month ◯ One day a week ◯ A few days a week ◯ Every day

Thinking back on your whole professional career, what percentage of your patients have been traumatized?

Thinking back on your whole professional career, what percentage of your patients have described a graphic military combat experience?

RCS

Please indicate how often in the PAST MONTH you have been doing the things listed below.

PART A: IN THE PAST MONTH...

	Not at all	A little	Somewhat	A lot
I was not taking care of important responsibilities (work, family, etc.).	○	○	○	○
I was communicating well with my friends, wife/husband, friends, kids.	○	○	○	○
I was reacting in a very coordinated manner to get things accomplished.	○	○	○	○
I was connecting with people to get support.	○	○	○	○
I was letting things that bug me roll off my back.	○	○	○	○
I was eating and drinking things that are good for me.	○	○	○	○
I was providing for my partner's intimacy needs.	○	○	○	○
I was reacting very haphazardly (bouncing off of things, not getting tasks done).	○	○	○	○
I was finding myself yelling at my friends, wife/husband, kids, pets.	○	○	○	○
I was thinking more often that things in the world are black & white (good & bad).	○	○	○	○
I was withdrawing from people I care about.	○	○	○	○
I was becoming more focused on myself and how I'm handling things.	○	○	○	○
I was taking care of things that I need to in my life (work, family, personal life, etc).	○	○	○	○

PART B: IN THE PAST MONTH...

	Not at all	A little	Somewhat	A lot
I was reaching out to people who care about me.	◯	◯	◯	◯
I was showing caring or loving support to my friends, family, or spouse/partner.	◯	◯	◯	◯
I was showing respect for people and not judging them.	◯	◯	◯	◯
I was pushing others away.	◯	◯	◯	◯
I was able to let go of things that upset me.	◯	◯	◯	◯
I was aware of others needs and able to respond to them.	◯	◯	◯	◯
I was able to react to things in a very organized and effective manner.	◯	◯	◯	◯
I was seeing the good and bad in all things.	◯	◯	◯	◯
I was striking out at people or pets (verbally or physically).	◯	◯	◯	◯
I was taking care of myself emotionally.	◯	◯	◯	◯
I was taking care of myself physically.	◯	◯	◯	◯
I was taking care of my spiritual needs.	◯	◯	◯	◯

MSPSS

These statements relate to social relationships. Think about the PAST MONTH. Could you count on the support of others to cope with DIFFICULTIES AT WORK?

	Very strongly disagree	Strongly disagree	Mildly disagree	Neutral	Mildly agree	Strongly agree	Very strongly agree
There is a special person who is around when I am in need.	◯	◯	◯	◯	◯	◯	◯
There is a special person with whom I can share my joys and sorrows.	◯	◯	◯	◯	◯	◯	◯
My family really tries to help me.	◯	◯	◯	◯	◯	◯	◯
I get the emotional help and support I need from my family.	◯	◯	◯	◯	◯	◯	◯
I have a special person who is a real source of comfort to me.	◯	◯	◯	◯	◯	◯	◯
My friends really try to help me.	◯	◯	◯	◯	◯	◯	◯
I can count on my friends when things go wrong.	◯	◯	◯	◯	◯	◯	◯
I can talk about my problems with my family.	◯	◯	◯	◯	◯	◯	◯
I have friends with whom I can share my joys and sorrows.	◯	◯	◯	◯	◯	◯	◯
There is a special person in my life who cares about my feelings.	◯	◯	◯	◯	◯	◯	◯
My family is willing to help me make decisions.	◯	◯	◯	◯	◯	◯	◯
I can talk about my problems with my friends.	◯	◯	◯	◯	◯	◯	◯

QPSNordic

These statements relate to social relationships at work. Think about the PAST MONTH. Could you count on the support of others to cope with DIFFICULTIES AT WORK? (Leave your answer blank if you do not have a supervisor or coworkers)

	Very strongly disagree	Strongly disagree	Mildly disagree	Neutral	Mildly agree	Strongly agree	Very strongly agree
If needed, I can get support and help with my work from my immediate supervisor.	◯	◯	◯	◯	◯	◯	◯
If needed, my immediate supervisor is willing to listen to my task-related problems.	◯	◯	◯	◯	◯	◯	◯
My work achievements are appreciated by my immediate supervisor.	◯	◯	◯	◯	◯	◯	◯
If needed, I can get support and help with my work from my coworkers.	◯	◯	◯	◯	◯	◯	◯
If needed, my coworkers are willing to listen to my work-related problems.	◯	◯	◯	◯	◯	◯	◯

WSBMSES

Relate the following to your job. For each situation described below, please rate how capable you are that you can successfully deal with it. IF YOU HAVE NEVER BEEN IN THE SITUATION DESCRIBED BELOW, THINK HOW EFFECTIVELY YOU WOULD HANDLE THE SITUATION, IF YOU ENCOUNTERED IT AT WORK. Because people differ from each other in the ways that they deal with work situations, there is no single correct answer. Answer with your immediate response rather than spending a lot of time thinking about your answer.
Please rate each situation as you CURRENTLY believe.

PART A: "How capable am I to..."

	Very incapable	Incapable	Somewhat incapable	Neither incapable nor capable	Somewhat capable	Capable	Very capable
Deal with work pace	◯	◯	◯	◯	◯	◯	◯
Cope with difficult or complex work tasks	◯	◯	◯	◯	◯	◯	◯
Deal with time pressure at work	◯	◯	◯	◯	◯	◯	◯
Keep focused on my work	◯	◯	◯	◯	◯	◯	◯
Cope with the organizational changes	◯	◯	◯	◯	◯	◯	◯
Have the skills necessary to do my job effectively	◯	◯	◯	◯	◯	◯	◯
Deal with a lack of information needed for my work	◯	◯	◯	◯	◯	◯	◯
Cope with the unclear expectations and requirements at work	◯	◯	◯	◯	◯	◯	◯
Manage other people and work tasks effectively	◯	◯	◯	◯	◯	◯	◯
Deal effectively with work challenges given the resources that I have	◯	◯	◯	◯	◯	◯	◯

Please rate each situation as you CURRENTLY believe.

PART B: "How capable am I to..."

	Very incapable	Incapable	Somewhat incapable	Neither incapable nor capable	Somewhat capable	Capable	Very capable
Utilize my skills at work	○	○	○	○	○	○	○
Learn new things or develop new abilities while doing my job	○	○	○	○	○	○	○
Participate in decision making in my organization	○	○	○	○	○	○	○
Get emotional support from my supervisors	○	○	○	○	○	○	○
Get practical aid from my supervisors	○	○	○	○	○	○	○
Get practical aid from my co-workers	○	○	○	○	○	○	○
See potential for growth in my job	○	○	○	○	○	○	○

Please rate each situation as you CURRENTLY believe.

PART C: "How capable am I to..."

	Very incapable	Incapable	Somewhat incapable	Neither incapable nor capable	Somewhat capable	Capable	Very capable
Deal with a feeling that this job wears me out	◯	◯	◯	◯	◯	◯	◯
Handle the feeling that my job is useless	◯	◯	◯	◯	◯	◯	◯
Handle feeling annoyed with my patients	◯	◯	◯	◯	◯	◯	◯
Cope with losing interest in my job	◯	◯	◯	◯	◯	◯	◯
Stay committed to my job	◯	◯	◯	◯	◯	◯	◯
Deal with the sense that my job consists of routines that are not engaging to me any more	◯	◯	◯	◯	◯	◯	◯
Overcome my belief that there are no jobs that would satisfy me now	◯	◯	◯	◯	◯	◯	◯
Cope with the feelings that my professional accomplishments are smaller than I thought they should be at this point in my life	◯	◯	◯	◯	◯	◯	◯
Persist in working, even when things do not go well	◯	◯	◯	◯	◯	◯	◯
Be immersed in my work	◯	◯	◯	◯	◯	◯	◯
See that my work makes a difference for others	◯	◯	◯	◯	◯	◯	◯

STSES

For each situation described below, please rate how capable you are to deal with thoughts or feelings that occur (or may occur) as the result of your work with people experiencing extreme or traumatic events.
Please rate each situation as you CURRENTLY believe.

"How capable am I to ..."

	Very incapable	Incapable	Somewhat incapable	Neither incapable nor capable	Somewhat capable	Capable	Very capable
Deal with my emotions (anger, sadness, depression, anxiety) about working with these people.	◯	◯	◯	◯	◯	◯	◯
Deal with the impact these people have had on my life.	◯	◯	◯	◯	◯	◯	◯
Find some meaning in what had happened to these people.	◯	◯	◯	◯	◯	◯	◯
Control reoccurring distressing thoughts or images about these people.	◯	◯	◯	◯	◯	◯	◯
Deal with thoughts that similar things may happen to me.	◯	◯	◯	◯	◯	◯	◯
Keep emotional balance after realizing what had happened to these people.	◯	◯	◯	◯	◯	◯	◯
Be supportive to others after my experiences with these people.	◯	◯	◯	◯	◯	◯	◯
Cope with thoughts that I can't handle working with these people anymore.	◯	◯	◯	◯	◯	◯	◯
Get help from others to better handle working with these people.	◯	◯	◯	◯	◯	◯	◯

STSS

The following is a list of statements made by persons who have been impacted by their work with traumatized patients. Read each statement, then indicate how frequently the statement was true for you in the PAST MONTH.

PART A: As a result of my work with traumatized patients ...

	Never	Rarely	Occasionally	Often	Very often
I felt emotionally numb	◯	◯	◯	◯	◯
My heart started pounding when I thought about my work with patients	◯	◯	◯	◯	◯
It seemed as if I was reliving the trauma(s) experienced by my patient(s)	◯	◯	◯	◯	◯
I had trouble sleeping	◯	◯	◯	◯	◯
I felt discouraged about the future	◯	◯	◯	◯	◯
Reminders of my work with patients upset me	◯	◯	◯	◯	◯
I had little interest in being around others	◯	◯	◯	◯	◯
I felt jumpy	◯	◯	◯	◯	◯
I was less active than usual	◯	◯	◯	◯	◯

How frequently were the statements true for you in the PAST MONTH?

PART B: As a result of my work with traumatized patients ...

	Never	Rarely	Occasionally	Often	Very often
I thought about my work with patients when I didn't intend to	◯	◯	◯	◯	◯
I had trouble concentrating	◯	◯	◯	◯	◯
I avoided people, places, or things that reminded me of my work with patients	◯	◯	◯	◯	◯
I had disturbing dreams about my work with patients	◯	◯	◯	◯	◯
I wanted to avoid working with some patients	◯	◯	◯	◯	◯
I was easily annoyed	◯	◯	◯	◯	◯
I expected something bad to happen	◯	◯	◯	◯	◯
I noticed gaps in my memory about patient sessions	◯	◯	◯	◯	◯

OLBI

Below are statements that relate to your well-being at work. Please indicate the degree of your agreement with each statement.

PART A

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
I always find new and interesting aspects in my work	◯	◯	◯	◯	◯
There are days when I feel tired before I arrive at work	◯	◯	◯	◯	◯
It happens more and more often that I talk about my work in a negative way	◯	◯	◯	◯	◯
After work, I tend to need more time than in the past in order to relax and feel better	◯	◯	◯	◯	◯
I can tolerate the pressure of my work very well	◯	◯	◯	◯	◯
Lately, I tend to think less at work and do my job almost mechanically	◯	◯	◯	◯	◯
I find my work to be a positive challenge	◯	◯	◯	◯	◯
During my work, I often feel emotionally drained	◯	◯	◯	◯	◯

Please indicate the degree of your agreement with each statement.

PART B

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Over time, one can become disconnected from this type of work	◯	◯	◯	◯	◯
After working, I have enough energy for my leisure activities	◯	◯	◯	◯	◯
Sometimes I feel sickened by my work tasks	◯	◯	◯	◯	◯
After my work, I usually feel worn out and weary	◯	◯	◯	◯	◯
This is the only type of work that I can imagine myself doing.	◯	◯	◯	◯	◯
Usually, I can manage the amount of my work well	◯	◯	◯	◯	◯
I feel more and more engaged in my work	◯	◯	◯	◯	◯
When I work, I usually feel energized	◯	◯	◯	◯	◯

PTCI

We are interested in the kind of thoughts you may have had after working with your patients. Below are a number of statements that may or may not be representative of your thinking. Please read each statement carefully and tell us how much you AGREE or DISAGREE with each statement. There are no right or wrong answers to these statements.

	Totally disagree	Disagree very much	Disagree slightly	Neutral	Agree slightly	Agree very much	Totally agree
People can't be trusted.	◯	◯	◯	◯	◯	◯	◯
I have to be on guard all the time.	◯	◯	◯	◯	◯	◯	◯
I feel dead inside.	◯	◯	◯	◯	◯	◯	◯
You can never know who will harm you.	◯	◯	◯	◯	◯	◯	◯
I have to be especially careful because you never know what can happen next.	◯	◯	◯	◯	◯	◯	◯
I am inadequate.	◯	◯	◯	◯	◯	◯	◯
I will never be able to feel normal emotions again.	◯	◯	◯	◯	◯	◯	◯
The world is a dangerous place.	◯	◯	◯	◯	◯	◯	◯
I can't rely on other people.	◯	◯	◯	◯	◯	◯	◯
I have no future.	◯	◯	◯	◯	◯	◯	◯
People are not what they seem.	◯	◯	◯	◯	◯	◯	◯
I feel like I don't know myself anymore.	◯	◯	◯	◯	◯	◯	◯
I can't rely on myself.	◯	◯	◯	◯	◯	◯	◯
Nothing good can happen to me anymore.	◯	◯	◯	◯	◯	◯	◯

PTGI-SF

Indicate for each of the following statements the degree to which the change reflected in the question is true in your life as a result of your work with patients that were exposed to traumatic or extremely stressful events.

	I did not experience this change	I experienced this change to a very small degree	I experienced this change to a small degree	I experienced this change to a moderate degree	I experienced this change to a great degree	I experienced this change to a very great degree
I changed my priorities about what is important in life.	◯	◯	◯	◯	◯	◯
I have a greater appreciation for the value of my own life.	◯	◯	◯	◯	◯	◯
I am able to do better things with my life.	◯	◯	◯	◯	◯	◯
I have a better understanding of spiritual matters.	◯	◯	◯	◯	◯	◯
I have a greater sense of closeness with others.	◯	◯	◯	◯	◯	◯
I established a new path for my life.	◯	◯	◯	◯	◯	◯
I know better that I can handle difficulties.	◯	◯	◯	◯	◯	◯
I have a stronger religious faith.	◯	◯	◯	◯	◯	◯
I discovered that I'm stronger than I thought I was.	◯	◯	◯	◯	◯	◯
I learned a great deal about how wonderful people are.	◯	◯	◯	◯	◯	◯

UWES-9

The following statements are about how you feel at work. Please read each statement carefully and decide if you ever feel this way about your job. If you have never had this feeling, check "Never". If you have had this feeling, indicate how often you feel it.

	Never	Almost never	Rarely	Sometimes	Often	Very often	Always
At my work, I feel bursting with energy	◯	◯	◯	◯	◯	◯	◯
At my job, I feel strong and vigorous	◯	◯	◯	◯	◯	◯	◯
I am enthusiastic about my job	◯	◯	◯	◯	◯	◯	◯
My job inspires me	◯	◯	◯	◯	◯	◯	◯
When I get up in the morning, I feel like going to work	◯	◯	◯	◯	◯	◯	◯
I feel happy when I am working intensely	◯	◯	◯	◯	◯	◯	◯
I am proud of the work that I do	◯	◯	◯	◯	◯	◯	◯
I am immersed in my work	◯	◯	◯	◯	◯	◯	◯
I get carried away when I'm working	◯	◯	◯	◯	◯	◯	◯

Thank You For Completing the Survey

If you have competed the survey for the first time, you will be invited in 6 months to complete the survey again. We will send you the invitation at the email address you have provided.

After collecting data from both assessments, we would like to share the results of the study with you.

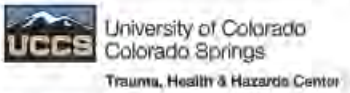
Would you like to receive email information about (check all that apply):

- [ ] Summary of the survey results
- [ ] Services that we may offer
- [ ] Events or conferences we may host

Do you have any comments on the survey?

If you have disturbing thoughts or strong distress as the result of completing the survey, please contact one of our therapists at: (719) 255-3764 or (719) 255-3763.

Thank you for completing the survey. We appreciate your help!



Prof. Charles Benight, PhD
THHC Director

Valerie Anderson, PsyD
THHC Clinical Director

Trauma, Health, and Hazard Center (THHC), University of Colorado at Colorado Springs, 1861 Austin Bluffs Parkway, Suite 102, Colorado Springs, Colorado, 80918

Appendix VII

Time 2 Survey

University of Colorado
Colorado Springs

Trauma, Health & Hazards Center

Dear Military Mental Health Provider,

Six months ago you completed a survey about military behavioral health providers as a part of the SupportNet program and agreed to participate in the second wave of the study. We had an excellent response, and we greatly appreciate your feedback and your time. As a part of your continued participation in this study, it is now time to complete the second and final survey.

As you'll recall, the SupportNet program is sponsored by the US Army Medical Research and Materiel Command, Telemedicine & Advanced Technology Research Center (TATRC) in connection with the Trauma Health and Hazards Center at the University of Colorado at Colorado Springs (UCCS). This study is designed to better understand your everyday work challenges and to establish a network of support to serve and help you in your important and challenging work.

Before starting the second survey, we would like to tell you the following:

a) It will take approximately 25-30 minutes to complete the survey.
b) You will be prompted to enter your email address at the beginning of the survey. We ask that you use **THE SAME EMAIL ADDRESS YOU PROVIDED IN THE FIRST SURVEY** (i.e., the address to which we sent you the invitation to the second survey).
c) You may recognize some of the questions in the second survey. However, the time frame of some of the questions has changed. We ask that you carefully read the instructions at the top of each page.
d) You provided your informed consent during the first survey and will not be asked to do so again. However, if you wish to review or withdraw the informed consent, please visit this link:
https://www.surveymonkey.com/s/SupportNet_Informed_Consent
e) If you have any questions about the survey, please contact: Charles Benight, Ph.D., 1420 Austin Bluffs Parkway, Colorado Springs, CO 80918, (719) 255-4180.
f) If you experience disturbing thoughts or strong distress while completing this survey, please call one of our therapists at (719) 255-3764 or (719) 255-3763 or use our toll-free number (800) 990-8227 and ask for extension 3764 or 3763.

Again, we greatly appreciate your participation in this program. Thank you!

Prof. Charles Benight, PhD
Director
Trauma, Health, and Hazards Center
University of Colorado at Colorado Springs

Valerie Anderson, PsyD
Military Trauma Specialist
Clinical Director
Trauma, Health, and Hazards Center
University of Colorado at Colorado Springs

Background Information

Please reply to the following questions. Your answers will help us learn more about who completed the survey.

***Enter THE SAME e-mail address you provided in the first survey (i.e., the address to which we sent you the invitation to the second survey)**

In what year were you born? (enter 4-digit birth year; for example, 1976)

In what month were you born?

In what state or U.S. territory do you live?

If not in the U.S., in what country do you live?

Current relationship status:

- ◯ Long-term committed relationship (e.g., married or domestic partner)
- ◯ Not in a relationship

What is the highest level of school you have completed or the highest degree you have received?

- ◯ High school graduate
- ◯ Some college
- ◯ Associate's degree
- ◯ Bachelor's degree
- ◯ Master's degree
- ◯ Doctorate or professional degree

Major job activities (check all that apply):

- [ ] Case management
- [ ] Nursing
- [ ] Medication management
- [ ] Emergency crisis intervention
- [ ] Psychotherapy/Counseling
- [ ] Spiritual support
- [ ] Clinical supervision for mental health professionals
- [ ] Psychological or psychiatric assessment
- [ ] Administration
- [ ] Research
- [ ] Training

Other (please specify)

What is your primary professional role?

- ◯ Psychiatrist
- ◯ Medical doctor (MD, DO)
- ◯ Clinical psychologist
- ◯ Physician assistant
- ◯ Counselor or psychotherapist
- ◯ Social worker
- ◯ Clinical or psychiatric social worker
- ◯ Registered nurse
- ◯ Psychiatric or mental health nurse practitioner
- ◯ Behavioral analyst
- ◯ Expressive or art therapist
- ◯ Chaplain
- ◯ Family advocate
- ◯ Neuropsychologist
- ◯ Marriage and family therapist

Other (please specify)

If you provide therapy, what approach do you use? (check all that apply)

- [ ] DOES NOT APPLY
- [ ] CBT - Cognitive Behavioral Therapy
- [ ] CPT - Cognitive Processing Therapy
- [ ] PE - Prolonged Exposure
- [ ] EMDR - Eye Movement Desensitization and Reprocessing
- [ ] Stress inoculation therapy
- [ ] Group therapy
- [ ] Brief psychodynamic psychotherapy
- [ ] Interpersonal therapy
- [ ] Family therapy
- [ ] Play therapy
- [ ] Neurofeedback/Neuropsychology
- [ ] DBT - Dialectic Behavioral Therapy
- [ ] REBT - Rational Emotive Behavioral Therapy
- [ ] ACT - Acceptance and Commitment Therapy
- [ ] Solution-Focused Therapy
- [ ] Hypnosis

Other (please specify)

Which of the following categories best describes your employment status?

- ◯ Working 1-19 hours per week
- ◯ Working 20-39 hours per week
- ◯ Working 40 or more hours per week
- ◯ Not employed, looking for work
- ◯ Not employed, NOT looking for work
- ◯ Retired, not working
- ◯ Disabled, not able to work

Type of employment (check all that apply):

- ☐ Employee of a for-profit company or business or of an individual, for wages, salary, or commissions
- ☐ Employee of a not-for-profit, tax-exempt, or charitable organization
- ☐ Local government employee (city, county, etc.)
- ☐ State government employee
- ☐ Federal government employee or active duty military
- ☐ Individual private practice
- ☐ Group private practice
- ☐ Working without pay

Other (please specify)

Current military status:

- ◯ Active duty military
- ◯ Reserves or National Guard
- ◯ Retired or former military
- ◯ No military service

Have you ever been deployed to a combat zone?

- ◯ Yes
- ◯ No

How many active patients do you have in your caseload?

Active duty military patients:

Reserves or National Guard patients:

Retired or former military patients:

Military family members:

Non-military patients:

How many hours of clinical supervision or consultation do you receive each month?

Individual clinical supervision or consultation:

Group clinical supervision or consultation:

Are you working in an embedded team?

- ◯ Yes
- ◯ No
- ◯ I do not know

If you are a Military, what is your current duty station?

ICAWS

For each question below, indicate how often you experienced interpersonal conflicts at work during the PAST MONTH.

	Less than once per month or never	Once or twice per month	Once or twice per week	Once or twice per day	Several times per day
How often do you get into arguments with others at work?	◯	◯	◯	◯	◯
How often do other people yell at you at work?	◯	◯	◯	◯	◯
How often are people rude to you at work?	◯	◯	◯	◯	◯
How often do other people do nasty things to you at work?	◯	◯	◯	◯	◯
How often does your responsibility for the patient conflict with the responsibilities of your job?	◯	◯	◯	◯	◯

OCS

The following items relate to organizational constraints at your work during the PAST MONTH.

How often are you constrained by:

	Less than once per month or never	Once or twice per month	Once or twice per week	Once or twice per day	Several times per day
Poor equipment or supplies.	◯	◯	◯	◯	◯
Organizational rules and procedures.	◯	◯	◯	◯	◯
Other employees.	◯	◯	◯	◯	◯
Your supervisor.	◯	◯	◯	◯	◯
Lack of equipment or supplies.	◯	◯	◯	◯	◯
Inadequate training.	◯	◯	◯	◯	◯
Interruptions by other people.	◯	◯	◯	◯	◯
Lack of necessary information about what to do or how to do it.	◯	◯	◯	◯	◯
Conflicting job demands.	◯	◯	◯	◯	◯
Inadequate help from others.	◯	◯	◯	◯	◯
Incorrect instructions.	◯	◯	◯	◯	◯
Too much paperwork.	◯	◯	◯	◯	◯
Too many patients.	◯	◯	◯	◯	◯

QWI

Describe your work during the PAST MONTH. Please indicate your answer for each question:

	Less than once per month or never	Once or twice per month	Once or twice per week	Once or twice per day	Several times per day
How often does your job require you to work very fast?	◯	◯	◯	◯	◯
How often does your job require you to work very hard?	◯	◯	◯	◯	◯
How often does your job leave you with little time to get things done?	◯	◯	◯	◯	◯
How often is there a great deal to be done?	◯	◯	◯	◯	◯
How often do you have to do more work than you can do well?	◯	◯	◯	◯	◯
How often do you have less work than you would like to have?	◯	◯	◯	◯	◯

STES

Thinking back on the LAST 6 MONTHS, please answer "Yes" to the events to which YOU WERE EXPOSED THROUGH YOUR WORK WITH PATIENTS. Then indicate the impact that hearing about this event has had on you.

TYPES of traumatic events:

	INDIRECT exposure to event	Impact on you
1. Natural disaster (e.g., flood, hurricane, tornado, wildfire, earthquake).	☐	☐
2. Transportation accident (e.g., car accident, train accident, plane crash).	☐	☐
3. Other serious accident (e.g., fire, explosion, building collapse).	☐	☐
4. Physical assault (e.g., being attacked, hit, shot, stabbed).	☐	☐
5. Sexual assault (e.g., rape or attempted rape, unwanted sexual experience)	☐	☐
6. Other life threatening crime (e.g., home invasion, hostage situation)	☐	☐
7. Military combat or exposure to a war-zone.	☐	☐
8. Life-threatening illness or injury of your client or someone close.	☐	☐
9. Sudden, unexpected death of someone close.	☐	☐
Any other stressful event or experience.	☐	☐

If yes, specify the traumatic event:

How many of the TYPES of traumatic events listed above have you PERSONALLY experienced in the LAST 6 MONTHS?

◯ None ◯ 1 ◯ 2 ◯ 3 ◯ 4 ◯ 5 ◯ 6 ◯ 7 ◯ 8 ◯ All

During the LAST 6 MONTHS, how many of your patients experienced at least one of the above events?

◯ None ◯ 1 or 2 ◯ 10 or less ◯ 50 or less ◯ 100 or less ◯ A few hundred ◯ A few thousand

During the LAST 6 MONTHS, how frequently have you worked with patients who experienced at least one of the above events?

◯ Never ◯ A few days in a year ◯ One day a month ◯ A few days a month ◯ One day a week ◯ A few days a week ◯ Every day

How often did you discuss these patients with your colleagues in the LAST 6 MONTHS?

◯ Never ◯ A few days in a year ◯ One day a month ◯ A few days a month ◯ One day a week ◯ A few days a week ◯ Every day

Thinking back on the LAST 6 MONTHS, what percentage of your patients have been traumatized?

Thinking back on the LAST 6 MONTHS, what percentage of your patients have described a graphic military combat experience?

RCS

Please indicate how often in the PAST MONTH you have been doing the things listed below.

PART A: IN THE PAST MONTH...

	Not at all	A little	Somewhat	A lot
I was not taking care of important responsibilities (work, family, etc.).	◯	◯	◯	◯
I was communicating well with my friends, wife/husband, friends, kids.	◯	◯	◯	◯
I was reacting in a very coordinated manner to get things accomplished.	◯	◯	◯	◯
I was connecting with people to get support.	◯	◯	◯	◯
I was letting things that bug me roll off my back.	◯	◯	◯	◯
I was eating and drinking things that are good for me.	◯	◯	◯	◯
I was providing for my partner's intimacy needs.	◯	◯	◯	◯
I was reacting very haphazardly (bouncing off of things, not getting tasks done).	◯	◯	◯	◯
I was finding myself yelling at my friends, wife/husband, kids, pets.	◯	◯	◯	◯
I was thinking more often that things in the world are black & white (good & bad).	◯	◯	◯	◯
I was withdrawing from people I care about.	◯	◯	◯	◯
I was becoming more focused on myself and how I'm handling things.	◯	◯	◯	◯
I was taking care of things that I need to in my life (work, family, personal life, etc).	◯	◯	◯	◯

PART B: IN THE PAST MONTH...

	Not at all	A little	Somewhat	A lot
I was reaching out to people who care about me.	○	○	○	○
I was showing caring or loving support to my friends, family, or spouse/partner.	○	○	○	○
I was showing respect for people and not judging them.	○	○	○	○
I was pushing others away.	○	○	○	○
I was able to let go of things that upset me.	○	○	○	○
I was aware of others needs and able to respond to them.	○	○	○	○
I was able to react to things in a very organized and effective manner.	○	○	○	○
I was seeing the good and bad in all things.	○	○	○	○
I was striking out at people or pets (verbally or physically).	○	○	○	○
I was taking care of myself emotionally.	○	○	○	○
I was taking care of myself physically.	○	○	○	○
I was taking care of my spiritual needs.	○	○	○	○

MSPSS

These statements relate to social relationships. Think about the PAST MONTH. Could you count on the support of others to cope with DIFFICULTIES AT WORK?

	Very strongly disagree	Strongly disagree	Mildly disagree	Neutral	Mildly agree	Strongly agree	Very strongly agree
There is a special person who is around when I am in need.	◯	◯	◯	◯	◯	◯	◯
There is a special person with whom I can share my joys and sorrows.	◯	◯	◯	◯	◯	◯	◯
My family really tries to help me.	◯	◯	◯	◯	◯	◯	◯
I get the emotional help and support I need from my family.	◯	◯	◯	◯	◯	◯	◯
I have a special person who is a real source of comfort to me.	◯	◯	◯	◯	◯	◯	◯
My friends really try to help me.	◯	◯	◯	◯	◯	◯	◯
I can count on my friends when things go wrong.	◯	◯	◯	◯	◯	◯	◯
I can talk about my problems with my family.	◯	◯	◯	◯	◯	◯	◯
I have friends with whom I can share my joys and sorrows.	◯	◯	◯	◯	◯	◯	◯
There is a special person in my life who cares about my feelings.	◯	◯	◯	◯	◯	◯	◯
My family is willing to help me make decisions.	◯	◯	◯	◯	◯	◯	◯
I can talk about my problems with my friends.	◯	◯	◯	◯	◯	◯	◯

QPSNordic

These statements relate to social relationships at work. Think about the PAST MONTH. Could you count on the support of others to cope with DIFFICULTIES AT WORK? (Leave your answer blank if you do not have a supervisor or coworkers)

	Very strongly disagree	Strongly disagree	Mildly disagree	Neutral	Mildly agree	Strongly agree	Very strongly agree
If needed, I can get support and help with my work from my immediate supervisor.	◯	◯	◯	◯	◯	◯	◯
If needed, my immediate supervisor is willing to listen to my task-related problems.	◯	◯	◯	◯	◯	◯	◯
My work achievements are appreciated by my immediate supervisor.	◯	◯	◯	◯	◯	◯	◯
If needed, I can get support and help with my work from my coworkers.	◯	◯	◯	◯	◯	◯	◯
If needed, my coworkers are willing to listen to my work-related problems.	◯	◯	◯	◯	◯	◯	◯

WSBMSES

Relate the following to your job. For each situation described below, please rate how capable you are that you can successfully deal with it. IF YOU HAVE NEVER BEEN IN THE SITUATION DESCRIBED BELOW, THINK HOW EFFECTIVELY YOU WOULD HANDLE THE SITUATION, IF YOU ENCOUNTERED IT AT WORK. Because people differ from each other in the ways that they deal with work situations, there is no single correct answer. Answer with your immediate response rather than spending a lot of time thinking about your answer.
Please rate each situation as you CURRENTLY believe.

PART A: "How capable am I to..."

	Very incapable	Incapable	Somewhat incapable	Neither incapable nor capable	Somewhat capable	Capable	Very capable
Deal with work pace	◯	◯	◯	◯	◯	◯	◯
Cope with difficult or complex work tasks	◯	◯	◯	◯	◯	◯	◯
Deal with time pressure at work	◯	◯	◯	◯	◯	◯	◯
Keep focused on my work	◯	◯	◯	◯	◯	◯	◯
Cope with the organizational changes	◯	◯	◯	◯	◯	◯	◯
Have the skills necessary to do my job effectively	◯	◯	◯	◯	◯	◯	◯
Deal with a lack of information needed for my work	◯	◯	◯	◯	◯	◯	◯
Cope with the unclear expectations and requirements at work	◯	◯	◯	◯	◯	◯	◯
Manage other people and work tasks effectively	◯	◯	◯	◯	◯	◯	◯
Deal effectively with work challenges given the resources that I have	◯	◯	◯	◯	◯	◯	◯

Please rate each situation as you CURRENTLY believe.

PART B: "How capable am I to..."

	Very incapable	Incapable	Somewhat incapable	Neither incapable nor capable	Somewhat capable	Capable	Very capable
Utilize my skills at work	○	○	○	○	○	○	○
Learn new things or develop new abilities while doing my job	○	○	○	○	○	○	○
Participate in decision making in my organization	○	○	○	○	○	○	○
Get emotional support from my supervisors	○	○	○	○	○	○	○
Get practical aid from my supervisors	○	○	○	○	○	○	○
Get practical aid from my co-workers	○	○	○	○	○	○	○
See potential for growth in my job	○	○	○	○	○	○	○

Please rate each situation as you CURRENTLY believe.

PART C: "How capable am I to..."

	Very incapable	Incapable	Somewhat incapable	Neither incapable nor capable	Somewhat capable	Capable	Very capable
Deal with a feeling that this job wears me out	◯	◯	◯	◯	◯	◯	◯
Handle the feeling that my job is useless	◯	◯	◯	◯	◯	◯	◯
Handle feeling annoyed with my patients	◯	◯	◯	◯	◯	◯	◯
Cope with losing interest in my job	◯	◯	◯	◯	◯	◯	◯
Stay committed to my job	◯	◯	◯	◯	◯	◯	◯
Deal with the sense that my job consists of routines that are not engaging to me any more	◯	◯	◯	◯	◯	◯	◯
Overcome my belief that there are no jobs that would satisfy me now	◯	◯	◯	◯	◯	◯	◯
Cope with the feelings that my professional accomplishments are smaller than I thought they should be at this point in my life	◯	◯	◯	◯	◯	◯	◯
Persist in working, even when things do not go well	◯	◯	◯	◯	◯	◯	◯
Be immersed in my work	◯	◯	◯	◯	◯	◯	◯
See that my work makes a difference for others	◯	◯	◯	◯	◯	◯	◯

STSES

For each situation described below, please rate how capable you are to deal with thoughts or feelings that occur (or may occur) as the result of your work with people experiencing extreme or traumatic events.
Please rate each situation as you CURRENTLY believe.

"How capable am I to ..."

	Very incapable	Incapable	Somewhat incapable	Neither incapable nor capable	Somewhat capable	Capable	Very capable
Deal with my emotions (anger, sadness, depression, anxiety) about working with these people.	◯	◯	◯	◯	◯	◯	◯
Deal with the impact these people have had on my life.	◯	◯	◯	◯	◯	◯	◯
Find some meaning in what had happened to these people.	◯	◯	◯	◯	◯	◯	◯
Control reoccurring distressing thoughts or images about these people.	◯	◯	◯	◯	◯	◯	◯
Deal with thoughts that similar things may happen to me.	◯	◯	◯	◯	◯	◯	◯
Keep emotional balance after realizing what had happened to these people.	◯	◯	◯	◯	◯	◯	◯
Be supportive to others after my experiences with these people.	◯	◯	◯	◯	◯	◯	◯
Cope with thoughts that I can't handle working with these people anymore.	◯	◯	◯	◯	◯	◯	◯
Get help from others to better handle working with these people.	◯	◯	◯	◯	◯	◯	◯

STSS

The following is a list of statements made by persons who have been impacted by their work with traumatized patients. Read each statement, then indicate how frequently the statement was true for you in the PAST MONTH.

PART A: As a result of my work with traumatized patients ...

	Never	Rarely	Occasionally	Often	Very often
I felt emotionally numb	◯	◯	◯	◯	◯
My heart started pounding when I thought about my work with patients	◯	◯	◯	◯	◯
It seemed as if I was reliving the trauma(s) experienced by my patient(s)	◯	◯	◯	◯	◯
I had trouble sleeping	◯	◯	◯	◯	◯
I felt discouraged about the future	◯	◯	◯	◯	◯
Reminders of my work with patients upset me	◯	◯	◯	◯	◯
I had little interest in being around others	◯	◯	◯	◯	◯
I felt jumpy	◯	◯	◯	◯	◯
I was less active than usual	◯	◯	◯	◯	◯

How frequently were the statements true for you in the PAST MONTH?

PART B: As a result of my work with traumatized patients ...

	Never	Rarely	Occasionally	Often	Very often
I thought about my work with patients when I didn't intend to	◯	◯	◯	◯	◯
I had trouble concentrating	◯	◯	◯	◯	◯
I avoided people, places, or things that reminded me of my work with patients	◯	◯	◯	◯	◯
I had disturbing dreams about my work with patients	◯	◯	◯	◯	◯
I wanted to avoid working with some patients	◯	◯	◯	◯	◯
I was easily annoyed	◯	◯	◯	◯	◯
I expected something bad to happen	◯	◯	◯	◯	◯
I noticed gaps in my memory about patient sessions	◯	◯	◯	◯	◯

OLBI

Below are statements that relate to your well-being at work. Please indicate the degree of your agreement with each statement.

PART A

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
I always find new and interesting aspects in my work	◯	◯	◯	◯	◯
There are days when I feel tired before I arrive at work	◯	◯	◯	◯	◯
It happens more and more often that I talk about my work in a negative way	◯	◯	◯	◯	◯
After work, I tend to need more time than in the past in order to relax and feel better	◯	◯	◯	◯	◯
I can tolerate the pressure of my work very well	◯	◯	◯	◯	◯
Lately, I tend to think less at work and do my job almost mechanically	◯	◯	◯	◯	◯
I find my work to be a positive challenge	◯	◯	◯	◯	◯
During my work, I often feel emotionally drained	◯	◯	◯	◯	◯

Please indicate the degree of your agreement with each statement.

PART B

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Over time, one can become disconnected from this type of work	◯	◯	◯	◯	◯
After working, I have enough energy for my leisure activities	◯	◯	◯	◯	◯
Sometimes I feel sickened by my work tasks	◯	◯	◯	◯	◯
After my work, I usually feel worn out and weary	◯	◯	◯	◯	◯
This is the only type of work that I can imagine myself doing.	◯	◯	◯	◯	◯
Usually, I can manage the amount of my work well	◯	◯	◯	◯	◯
I feel more and more engaged in my work	◯	◯	◯	◯	◯
When I work, I usually feel energized	◯	◯	◯	◯	◯

PTCI

We are interested in the kind of thoughts you may have had after working with your patients. Below are a number of statements that may or may not be representative of your thinking. Please read each statement carefully and tell us how much you AGREE or DISAGREE with each statement. There are no right or wrong answers to these statements.

	Totally disagree	Disagree very much	Disagree slightly	Neutral	Agree slightly	Agree very much	Totally agree
People can't be trusted.	◯	◯	◯	◯	◯	◯	◯
I have to be on guard all the time.	◯	◯	◯	◯	◯	◯	◯
I feel dead inside.	◯	◯	◯	◯	◯	◯	◯
You can never know who will harm you.	◯	◯	◯	◯	◯	◯	◯
I have to be especially careful because you never know what can happen next.	◯	◯	◯	◯	◯	◯	◯
I am inadequate.	◯	◯	◯	◯	◯	◯	◯
I will never be able to feel normal emotions again.	◯	◯	◯	◯	◯	◯	◯
The world is a dangerous place.	◯	◯	◯	◯	◯	◯	◯
I can't rely on other people.	◯	◯	◯	◯	◯	◯	◯
I have no future.	◯	◯	◯	◯	◯	◯	◯
People are not what they seem.	◯	◯	◯	◯	◯	◯	◯
I feel like I don't know myself anymore.	◯	◯	◯	◯	◯	◯	◯
I can't rely on myself.	◯	◯	◯	◯	◯	◯	◯
Nothing good can happen to me anymore.	◯	◯	◯	◯	◯	◯	◯

PTGI-SF

Indicate for each of the following statements the degree to which the change reflected in the question is true in your life as a result of your work with patients that were exposed to traumatic or extremely stressful events.

	I did not experience this change	I experienced this change to a very small degree	I experienced this change to a small degree	I experienced this change to a moderate degree	I experienced this change to a great degree	I experienced this change to a very great degree
I changed my priorities about what is important in life.	◯	◯	◯	◯	◯	◯
I have a greater appreciation for the value of my own life.	◯	◯	◯	◯	◯	◯
I am able to do better things with my life.	◯	◯	◯	◯	◯	◯
I have a better understanding of spiritual matters.	◯	◯	◯	◯	◯	◯
I have a greater sense of closeness with others.	◯	◯	◯	◯	◯	◯
I established a new path for my life.	◯	◯	◯	◯	◯	◯
I know better that I can handle difficulties.	◯	◯	◯	◯	◯	◯
I have a stronger religious faith.	◯	◯	◯	◯	◯	◯
I discovered that I'm stronger than I thought I was.	◯	◯	◯	◯	◯	◯
I learned a great deal about how wonderful people are.	◯	◯	◯	◯	◯	◯

UWES-9

The following statements are about how you feel at work. Please read each statement carefully and decide if you ever feel this way about your job. If you have never had this feeling, check "Never". If you have had this feeling, indicate how often you feel it.

	Never	Almost never	Rarely	Sometimes	Often	Very often	Always
At my work, I feel bursting with energy	○	○	○	○	○	○	○
At my job, I feel strong and vigorous	○	○	○	○	○	○	○
I am enthusiastic about my job	○	○	○	○	○	○	○
My job inspires me	○	○	○	○	○	○	○
When I get up in the morning, I feel like going to work	○	○	○	○	○	○	○
I feel happy when I am working intensely	○	○	○	○	○	○	○
I am proud of the work that I do	○	○	○	○	○	○	○
I am immersed in my work	○	○	○	○	○	○	○
I get carried away when I'm working	○	○	○	○	○	○	○

Thank You For Completing the Survey

Would you like to receive email information about (check all that apply):

- [ ] Summary of the survey results
- [ ] Services that we may offer
- [ ] Events or conferences we may host

Do you have any comments on the survey?

If you have disturbing thoughts or strong distress as the result of completing this survey, please contact one of our therapists at: (719) 255-3764 or (719) 255-3763.

Thank you for completing the survey. We appreciate your help!

University of Colorado
Colorado Springs
Trauma, Health & Hazards Center

Prof. Charles Benight, PhD
THHC Director

Valerie Anderson, PsyD
THHC Clinical Director

Trauma, Health, and Hazard Center (THHC), University of Colorado at Colorado Springs, 1861 Austin Bluffs Parkway, Suite 102, Colorado Springs, Colorado, 80918

Appendix VIII

Secondary Traumatic Stress Prevalence

*Title Page - Author Information, Acknowledgments

Secondary Traumatic Stress among Mental Health Providers Working with the Military: Prevalence and its Work- and Exposure- Related Correlates

Roman Cieslak, PhD[1,2]; Valerie Anderson, PsyD[1]; Judith Bock, PsyD[1]; Bret A. Moore, PsyD[3]; Alan L. Peterson, PhD[4]; and Charles C. Benight, PhD[1]

[1]Trauma, Health, and Hazards Center, University of Colorado, Colorado Springs, CO
[2]Department of Psychology, Warsaw School of Social Sciences and Humanities, Warsaw, Poland
[3]Warrior Resiliency Program, Southern Regional Medical Command, San Antonio, TX
[4] Department of Psychiatry, The University of Texas Health Science Center at San Antonio, San Antonio, TX

Correspondence concerning this article should be addressed to Charles C. Benight, Trauma, Health, and Hazards Center, University of Colorado, 1420 Austin Bluffs Parkway, Colorado Springs, CO, 80918. E-mail: cbenight@uccs.edu

Conflicts of Interest and Sources of Funding: The authors claim no conflicts of interest. This research was conducted by the Trauma, Health & Hazards Center, University of Colorado, Colorado Springs and was made possible by a research grant that was awarded to Dr. Benight and administered by the U.S. Army Medical Research & Materiel Command (USAMRMC) and the Telemedicine & Advanced Technology Research Center (TATRC) at Fort Detrick, MD under Contract Number W81XWH-11-2-0153.

Disclaimer: The views expressed in this article are solely those of the authors and do not represent an endorsement by or the official policy of the U.S. Army, the Department of Defense, or the U.S. Government.

Abstract

The study assessed prevalence and work- and exposure- related correlates of secondary traumatic stress among mental health providers working with military patients. Participants (N = 224) completed measures of indirect exposure to trauma (i.e., diversity, volume, frequency, ratio), appraisal of secondary exposure impact, direct exposure to trauma, secondary traumatic stress, and work characteristics. The prevalence of secondary traumatic stress was 19.2%. A meta-analysis showed that the severity of intrusion, avoidance, and arousal symptoms of secondary traumatic stress was similar across various groups of professionals indirectly exposed to trauma (e.g., mental health providers, rescue workers, social workers). A high percentage of traumatized clients in one's professional career (i.e., ratio of indirect exposure) and the negative appraisal of the indirect trauma exposure impact were related to higher secondary traumatic stress. Additionally, personal history of trauma, constraints related to patient load, and high levels of paperwork were associated with higher secondary traumatic stress.

Keywords: secondary traumatic stress; indirect exposure to trauma; mental health providers; military trauma

Secondary Traumatic Stress among Mental Health Providers Working with the Military: Prevalence and its Work- and Exposure- Related Correlates

INTRODUCTION

The rates of Posttraumatic Stress Disorder (PTSD) among the U.S. military and veterans across studies range from a current prevalence of 2% to 17% to a lifetime prevalence from 6% to 31% (Richardson, Frueh, & Acierno, 2010). These rates are higher than in the general U.S. population where the current prevalence is 3.5% (Kessler, Chiu, Demler, Merikangas, & Walters, 2005) and lifetime prevalence is 6.8% (Kessler, Berglund, et al., 2005). The numbers of military or veteran patients seeking mental health care has grown drastically in recent years. The Department of Veterans Affairs (VA) alone has observed a 200% increase in the number of patients with PTSD receiving behavioral health services, from 139,062 in 1997 to 279,256 in 2005 (Rosenheck & Fontana, 2007). With a growing need for treatment, the VA alone added 4,330 mental health professionals to its workforce (Voss Horrell, Holohan, Didion, & Vance, 2011). These statistics show the population affected indirectly by trauma, through providing services for traumatized patients, is growing rapidly. Given the exponential increase in clinical need and potential for secondary exposure by military mental health providers, the purpose of this investigation was threefold: (a) explore the prevalence of secondary traumatic stress among mental health providers working with military patients and compare the severity of secondary traumatic stress symptoms in this population to other mental health providers; (b) test the relationship between indirect exposure to trauma and secondary traumatic stress; and (c) investigate the possible correlates of secondary traumatic stress.

The Effects of Indirect Trauma Exposure on Providers

Whereas most studies examining the effects of PTSD have focused on trauma survivors or victims, information about the effect on providers delivering trauma treatment is more limited. Indirect (also called vicarious or secondary) exposure to trauma through work with traumatized patients might have a positive effect on providers' posttraumatic growth (Brockhouse, Msetfi, Cohen, & Joseph, 2011), but it is also predictive of higher distress (Pearlman & Mac Ian, 1995), increased negative cognitions (e.g., low level of self-trust) (Pearlman & Mac Ian, 1995), and higher job burnout (Ballenger-Browning et al., 2011).

The majority of studies investigating the negative effects of indirect trauma exposure on mental health providers have focused on a set of conceptually overlapping outcomes. These include vicarious traumatization (McCann & Pearlman, 1990), compassion fatigue (Figley, 2002), and secondary traumatic stress (Bride, Robinson, Yegidis, & Figley, 2004). The ongoing discussion about the similarities and differences between these concepts (Jenkins & Baird, 2002) shows their definitions share one or more of the following components: indirect exposure to a traumatic material, PTSD symptomology, and negative shifts in therapists' cognitive schema. *Secondary traumatic stress* is usually associated with therapists' PTSD-like reactions, such as intrusive re-experiencing of the traumatic material, avoidance of trauma triggers and emotions, and increased arousal, all resulting from indirect exposure to clients' trauma (Bride et al., 2004). *Compassion fatigue* is defined as reduced empathic capacity or client interest manifested through behavioral and emotional reactions from exposure to traumatizing experiences of others (Adams, Boscarino, & Figley, 2006). Finally, *vicarious trauma* is the negative cognitive shift in therapists' worldview that occurs as a result of their empathetic engagement with their clients' traumatic material (McCann & Pearlman, 1990).

The incongruities in these definitions have led to some research discrepancies on the consequences of indirect trauma exposure and have also hindered cross-sample comparisons. This study utilized the term *secondary traumatic stress* to measure the indirect exposure to clients' trauma material that leads to the providers' PTSD-like symptoms of re-experiencing, avoiding, and hyperarousal, corresponding with criteria B, C, and D, respectively, of the revised fourth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (*DSM-IV-TR*; American Psychiatric Association [APA], 2000).

Using a meta-analytic approach, we aimed to compare the severity of the secondary traumatic stress symptoms identified in the present study sample to the severity of these symptoms among other populations offering services to traumatized clients. As the discrepancies between studies testing the prevalence of secondary traumatic stress may result from applying different assessment methods, *prevalence meta-analysis* should compare data collected with the same measure (e.g., the Secondary Traumatic Stress Scale; Bride et al., 2004).

Prevalence of secondary traumatic stress differs across studies and occupation groups. For example, when measured with the Secondary Traumatic Stress Scale (STSS; Bride et al., 2004), *DSM-IV-TR* (APA, 2000) criteria B, C, and D for a PTSD-like diagnosis of secondary traumatic stress were met by 15.2% of social workers (Bride, 2007), 16.3% of oncology staff (Quinal, Harford, & Rutledge, 2009), 19% of substance abuse counselors (Bride, Smith Hatcher, & Humble, 2009), 20.8% of providers treating family or sexual violence (Choi, 2011a), 32.8% of emergency nurses (Dominguez-Gomez & Rutledge, 2009), 34% of child protective services workers (Bride, Jones, & Macmaster, 2007), and 39% of juvenile justice education workers (Smith Hatcher, Bride, Oh, Moultrie King, & Franklin Catrett, 2011). There is no estimation of prevalence of secondary traumatic stress among mental health specialists providing treatment for

military and veteran patients. In addition, we were unable to identify any research on severity of the intrusion, avoidance, and arousal symptoms in this specific group of providers. Therefore, the present study aimed at identifying secondary traumatic stress prevalence and symptom severity among mental health providers working with military patients.

Indirect Exposure to Trauma

The next aim of the study was to investigate the basic assumption that indirect exposure to traumatic events is a critical factor in the development of secondary traumatic stress symptoms. Whereas measuring direct exposure to trauma is a standard approach in studies on PTSD, many studies on secondary traumatic stress focus more on the PTSD-like symptoms, reflecting *DSM-IV-TR* criteria B, C, and D for a PTSD diagnosis (APA, 2000), and pay less attention to the indirect exposure (criterion A1) hypothetically causing these symptoms. Moreover, even if a measure of indirect exposure is used in a study, it is often analyzed as a dichotomous or one-dimensional variable, usually referring to duration of work with traumatized patients (Galek, Flannelly, Greene, & Kudler, 2011; Devilly, Wright, & Varker, 2009).

Assuming exposure to trauma patients is a one-dimensional construct may partially explain the inconsistencies in research on the associations between indirect trauma exposure and secondary traumatic stress (Sabin-Farrell & Turpin, 2003). To clarify which aspects of the exposure may be relevant for secondary traumatic stress, we accounted for four indices of indirect trauma exposure in mental health providers: diversity, volume, frequency, and ratio. *Diversity* reflected the variety of indirect trauma exposure and allows for determining whether a provider treats patients for PTSD caused by one type of traumatic event (e.g., natural disaster), or whether a provider offers services for patients with PTSD caused by multiple types of traumatic events (e.g., a combat-related experience, transportation accident). *Volume* referred to the

number of patients treated for exposure to a traumatic event. *Frequency* indicated how often a provider was exposed to a patient's traumatic material. *Ratio* indicated the percentage of traumatized patients in the provider's caseload. Further, because mental health providers in this study provided their services to military and veteran patients, the ratio of patients suffering from trauma caused by a military combat experience was also considered.

Psychosocial and Work-Related Correlates

In addition to the indirect exposure to trauma, other psychosocial predictors have been investigated in relation to secondary traumatic stress development. For example, researchers often assume that the provider's own *direct* exposure to traumatic events may contribute to secondary traumatic stress symptomatology (cf. Devilly et al., 2009). Thus, one's personal trauma history should be accounted for when testing for the relationship between indirect exposure and secondary traumatic stress. Recent research indicated, however, that the results of studies testing the relationship between personal history of trauma and secondary traumatic stress were inconclusive (Elwood, Mott, Lohr, & Galovski, 2011). The discrepancies in the results may, to some degree, depend on the type of the direct trauma exposure measured. For example, lifetime personal history of trauma, but not past-year trauma exposure, was positively correlated to secondary traumatic stress in child protective services workers (Bride et al., 2007).

Theories of PTSD emphasize the importance of cognitive appraisals as contributors to the etiology and maintenance of PTSD (Dalgleish, 2004; Ehlers & Clark, 2000). In particular, negative appraisals about the nature and meaning of the event (e.g., whether it offers threat or safety), about the self (e.g., reactions to the event and subsequent trauma symptoms), and about the world (e.g., other people's reaction to the event) are all said to contribute to the development of posttraumatic distress (Ehlers & Clark, 2000). Other types of *cognitive appraisals* may

involve evaluations of the importance or impact of the stress exposure on subsequent functioning. Indeed, theories of stress assume this type of cognitive appraisal as a key component of stress and adaptation processes predictive of stress consequences (Lazarus & Folkman, 1984). Further, the individual's appraisal of the impact of the exposure is related to the *DSM-IV-TR* (APA, 2000) criterion F for the PTSD diagnosis regarding the significance of functional impairment. Therefore, the present study investigated the relationship between the mental health providers' appraisal of the impact of the indirect exposure and secondary traumatic stress.

In addition to the indirect exposure, appraisal of its impact, and direct exposure to trauma, some *work characteristics* may also predict secondary traumatic stress in mental health providers. Theories explaining distress among workers highlighted that work-related demands and work-related support have predicted employees' well-being (Cieslak, Knoll, & Luszczynska, 2007; Van der Doef & Maes, 1999). In line with this assumption, work-related characteristics were found to predict secondary traumatic stress symptoms, and their effect was stronger than the effect of the indirect exposure (Devilly et al., 2009).

One work-related characteristic specific to mental health providers is the *type of psychotherapy* provided, such as Prolonged Exposure. One might consider this to be a risk factor for therapists, yet any assumptions should be made with caution, as providing exposure therapy for trauma patients was not found to be related to secondary traumatic stress. On the other hand, clinicians who advocate exposure therapy but do not provide it for patients were found to present strong secondary traumatic stress symptomatology (Deighton, Gurris, & Traue, 2007).

Professional *social support* is often identified as a protective factor for the development of secondary traumatic stress. The results, however, are ambiguous even for studies using the same measure of secondary traumatic stress. For example, investigators of Internet child pornography who indicated high social support from family and friends reported low secondary traumatic stress, but strong reliance on coworkers was correlated to high secondary traumatic stress (Perez, Jones, Englert, & Sachau, 2010). High work-related social support was found to predict a low level of avoidance symptoms but was unrelated to intrusion and arousal symptoms of secondary traumatic stress (Argentero & Setti, 2011). Additionally, some aspects of organizational support (e.g., informational support) seem to be an important protective factor for development of secondary traumatic stress symptomatology (Choi, 2011b). There is also evidence for reducing secondary traumatic stress symptoms through professional support received in clinical supervision (Creamer & Liddle, 2005). This evidence shows that professional supervision may constitute a protective factor for development of secondary traumatic stress. Collectively, the research is equivocal on the positive and negative effects of professional support for mental health providers.

In summary, the purpose of this investigation was threefold: (a) to explore the prevalence of secondary traumatic stress among mental health providers working with military patients and compare the severity of secondary traumatic stress symptoms in this population to severity of the symptoms in other populations by means of meta-analysis; (b) to test the relationship between indirect exposure to trauma (measured with a multidimensional assessment of the exposure, including diversity, volume, frequency, and ratio) and secondary traumatic stress; and (c) to investigate the possible correlates of secondary traumatic stress: personal history of trauma,

providers' appraisal of the impact of secondary exposure, work characteristics, and professional support.

METHODS

Participants and Procedure

This study was part of the ongoing SupportNet Project designed to evaluate indirect exposure to trauma, work-related demands and resources, and their impact on job burnout, work engagement, and secondary traumatic stress in military mental health providers. Data were collected by means of an online survey. An e-mail with information about the SupportNet study and a link to the survey was sent to on-post and off-post behavioral health providers working with military patients. The off-post providers (i.e., located in the civilian community) received an invitation to the study through an online newsletter sent by TriWest Healthcare Alliance, an organization that manages health benefits for military patients and their families. The on-post providers (i.e., working within military installations) were contacted by e-mail sent by the director of the Department of Behavioral Health at Evans Army Community Hospital at Fort Carson, CO and by the Psychology Consultant to the U.S. Army Surgeon General.

Of 339 participants who initially consented to the study, 224 (66%) met the inclusion criteria (i.e., working at least one year as a clinical psychologist, counselor, or social worker; providing services for a military population; and being indirectly exposed to trauma through work with patients) and completed the survey. The average age was 48.92 (SD = 13.04) years and the average length of work experience was 16.40 (SD = 10.42) years. Demographic and work characteristics of the sample are presented in Table 1. The participants were predominantly women (67%), with doctorate (54%) or master's degrees (46%), working full-time (78%) or part-time (22%) as clinical psychologists (45%), counselors (31%) or social

workers (23%). Slightly more than half of the sample was serving as on-post (57%) and the rest as off-post (43%) behavioral health providers. The sample was almost equally split between those who did and did not have any military experience (44% and 56%, respectively). One fifth of the sample (19%) had deployed to a combat zone at least once. They reported utilizing a mixture of different therapeutic approaches with most reporting Cognitive Behavioral Therapy (CBT, 90%), followed by Cognitive Processing Therapy (CPT, 42%), Prolonged Exposure (PE, 30%) and Eye Movement Desensitization and Reprocessing (EMDR, 29%).

Measures

Indirect exposure to trauma. The Secondary Trauma Exposure Scale (STES) was developed for the purpose of this study to measure mental health providers' indirect exposure to traumatic events. Similar to the brief instruments designed for screening direct exposure to trauma (Norris, 1990), the STES consists of the list of potentially traumatic events. In the STES, however, participants are not instructed to indicate the traumatic events they personally experienced, but to check the events (answers "Yes" or "No") they were exposed to through their work with patients. The list of 10 events included: natural disasters, transportation accidents, other serious accidents, physical assaults, sexual assaults, other life-threatening crimes, military combat or exposure to a warzone, life-threatening illness or injury, sudden death of someone close, and a global category of "other."

The STES measures four aspects of indirect exposure: diversity, volume, frequency, and ratio. The diversity index is calculated by counting how many types of traumatic events were checked on the list (range 0–10). Volume and frequency of an indirect exposure were measured respectively with two separate questions also referring to the list: "During your professional career, how many of your patients experienced at least one of the above events?" (scale 1 to 7:

None; 1 or 2; 10 or less; 50 or less; 100 or less; A few hundred; A few thousand); "During your entire professional career, how frequently have you worked with patients who experienced at least one of the above events?" (scale 1–7: Never; A few days in a year; One day a month; A few days a month; One day a week; A few days a week; Every day). The ratio of indirect exposure was assessed with two questions estimating the percent of providers' clients who were traumatized or experienced military-related trauma.

Appraisal of the impact of indirect exposure. The appraisal of the impact of being exposed to the history and details of patients' traumatic events was assessed with 10 items. Participants were asked to assess how hearing about each checked event in the STES affected them. The responses are given on a 1 to 7 scale (from "Very Negative" through "Neutral" to "Very Positive"). The item mean score was calculated as the index of appraisal. The Chronbach's alpha was .92.

Direct exposure to trauma. To control for providers' direct exposure to trauma, we asked a question referring to the list of 10 potentially traumatic events included in the STES: "How many of the types of traumatic events listed above have you personally experienced?" (scale from 0 to 10).

Secondary traumatic stress. Symptoms of secondary trauma were measured with the Secondary Traumatic Stress Scale (Bride et al., 2004). This 17-item, self-report instrument evaluated the frequency of intrusion, avoidance, and arousal symptoms resulting from an indirect exposure to trauma at work. The list of symptoms corresponds to the B, C, and D diagnostic criteria for PTSD specified in the *DSM-IV-TR* (APA, 2000). Responses were given on a 1 to 5 scale (from "Never" to "Very Often"). Participants indicated how often each of the symptoms was experienced in the last month. Scores were obtained by summing the items for the entire

scale and for each subscale. Good psychometric properties of this instrument have been demonstrated in many studies (Bride, 2007; Bride et al., 2004). The reliability in our study was $\alpha = .79$ for intrusion, $\alpha = .87$ for avoidance, $\alpha = .84$ for arousal symptoms, and $\alpha = .93$ for the total score.

Work characteristics and professional support. Several survey questions were designed to gain knowledge about work content, work-related demands, and resources. We asked about the primary occupational role (e.g., clinical psychologist, counselor, psychotherapist, or social worker), therapeutic approaches used in work with clients (e.g., CBT, CPT, PE, EMDR), employment status, work experience as a mental health provider, hours of individual and group supervision received monthly, and frequency of professional peer support (scale 1–7: Never; A few days in a year; One day a month; A few days a month; One day a week; A few days a week; Every day). We also assessed participants' perception of their workload in the last month by asking how frequently they were constrained by (1) having too much paperwork and (2) having too many patients (scale 1–5: Less than once per month or never; Once or twice per month; Once or twice per week; Once or twice per day; Several times per day).

Demographic information. Socio-demographic information was collected: gender, age, highest level of education, relationship status, military status, and deployment to a combat zone.

RESULTS

Work and Exposure Characteristics

Table 2 presents means, standard deviations, and actual and potential ranges for the main variables of the study. On average, participants were receiving 2.51 hours of individual clinical supervision and 2.17 hours of group clinical supervision per month. Additionally, they were receiving peer support by discussing the patients with colleagues on the average of a few days a

month. Respondents also indicated that they were on average constrained by having too many patients (i.e., once or twice per month) and more frequently by having too much paperwork (i.e., once or twice per week). All the providers reported at least one personally experienced traumatic event, with the average number approximately three (*SD* = 1.84). A similar number of personally experienced traumatic events was reported among military medical personnel (Maguen et al., 2009).

In terms of secondary exposure, providers indicated that on average, over the course of their professional career, they treated seven different types of trauma (cf. diversity), worked with a few hundred traumatized patients (cf. volume), and treated traumatized patients for a few days a week (cf. frequency). Providers declared that in their professional career about 63% of patients were traumatized (cf. ratio), and 32% experienced military-related traumas. The appraisal of the impact of this indirect trauma exposure on providers was negative (3.34 on 1-7 scale with 3 meaning "somewhat negative").

Prevalence of Secondary Traumatic Stress in Mental Health Providers Working with Military

Table 3 presents how many behavioral health providers met the diagnostic criteria for secondary traumatic stress. The algorithm proposed by Bride (2007) follows *DSM-IV-TR* recommendations for a diagnosis of PTSD (APA, 2000) and includes criteria B (intrusion or re-experiencing), C (avoidance), and D (arousal) and their combinations. Criterion A (an indirect or direct exposure to trauma) was met by all our participants as part of the inclusion criteria for the study. According to the algorithm, symptoms of secondary traumatic stress included in the STSS are endorsed if the given corresponding item is scored 3 or higher on a 1–5 scale. At least

one symptom must be endorsed to meet Criterion B, three for Criterion C, and two for Criterion D.

Table 3 shows that despite being indirectly exposed to the traumatic history of patients, 33.9% of the participants did not meet any of the B, C, or D criteria for PTSD. However, 19.2% of providers met all three core criteria for PTSD. Different combinations of two of the criteria were found in 22.8% to 29.5% of the study population. The criterion met most frequently was intrusion (57.6%), followed by arousal (35.3%) and avoidance (29.9%). Table 4 presents descriptive statistics for intensity of intrusion, avoidance, and arousal symptoms and for a total score on the STSS.

Secondary Traumatic Stress Across Different Services: Results of Meta-Analysis

Descriptive statistics found for behavioral health providers working with the military were compared to statistics obtained from previous studies in which secondary traumatic stress was measured with the STSS. Articles cited in Table 4 were identified through searches of databases (PsychINFO, PILOT, Medline, and ScienceDirect) for peer-reviewed articles published in English through April 2012. The only keyword term used for identification of research was the name of the scale: Secondary Traumatic Stress Scale. A number of criteria had to be met in order to be included in the meta-analytic review. Participants had to be indirectly exposed to trauma through their work. In addition, the article must include information about sample size, mean values, and standard deviations for each subscale of the STSS, and for the total score.

Of the 27 articles identified and reviewed, 5 met inclusion criteria. Most studies were excluded because, although they provided a total score for the STSS, they did not provide appropriate descriptive statistics for intrusion, avoidance, and arousal criteria. Sample size for

individual studies included in the meta-analysis ranged from 89 to 276, and a total of 1,155 participants were included in the meta-analysis.

Table 5 displays the results of the random effect meta-analysis. Results indicated that variation in mean values across studies is due to heterogeneity rather than chance. Mean values for intrusion, avoidance, arousal, and total score from the SupportNet study were contained in a range of respective confidence intervals calculated in the meta-analysis. This indicates that the severity of secondary traumatic stress symptoms in the SupportNet sample is similar to the severity of these symptoms in other investigated populations. This conclusion remains valid even if the results of the current study are excluded from the meta-analysis. The 95% CIs for the symptom severity would be [8.53, 10.51] for intrusion, [12.82, 15.31] for avoidance, [9.06, 11.15] for arousal, and [28.81, 37.45] for total STSS score.

Correlates of the Secondary Traumatic Stress

Further statistical analyses explored whether the participants' demographic and work-related characteristics were related to secondary traumatic stress. A series of one-way ANOVAs was used to test for secondary traumatic stress differences across gender, relationship status, profession, education levels, employment, military status, deployment, different types of therapeutic approaches used in work with patients (CBT, CPT, PE, or EMDR), and type of work setting (on- versus off-post providers). Descriptive statistics for these variables are presented in Table 1. None of these characteristics had a significant effect on intensity of secondary traumatic stress (all Fs < 1.60 and ps $> .207$).

In contrast, several work and personal factors were found to relate to secondary traumatic stress. As shown in Table 6, only one out of five indices of indirect trauma exposure, the ratio of traumatized clients in professional career, was associated with secondary traumatic stress.

Providers' personal history of trauma, being constrained by having too many patients, and too much paperwork were also associated positively with secondary traumatic stress. Finally, the provider's appraisal of impact of indirect exposure to trauma was negatively correlated with secondary traumatic stress (i.e., more negative appraisal of the impact correlated to higher level of symptoms).

DISCUSSION

A logical extension of the psychological strain endured by military members who have completed deployments to Iraq and Afghanistan is the presence of STS symptoms in those who care for them. Previous research targeting clinicians working with civilian population showed that among those who were indirectly exposed to traumatic material through work a sizeable percentage (15% - 39%) suffered from secondary posttraumatic stress (Bride, 2007; Bride, et al., 2009; Bride, et al., 2007; Choi, 2011a; Dominguez-Gomez & Rutledge, 2009; Smith et al., 2011; Quinal, et al., 2009). The present study documents the level of STS in military behavioral health providers. A limited impact of indirect exposure to trauma at work on developing STS symptoms was found in approximately a third of military behavioral health providers, whereas one in five reported meeting all criteria of PTSD due to indirect exposure to trauma. Compared to rates of current PTSD among veterans (2 -17%; Richardson et al., 2010) or the general population (3.5%; Kessler et al., 2005) the prevalence observed in the present study is high. It may be assumed that the performance of different tasks (including those work-related) may be affected by PTSD symptoms (cf. Wald & Taylor, 2009). As symptoms of STS seem to be a common problem, military behavioral health providers themselves may need easy access to effective psychosocial interventions (for overview see Stergiopoulos, Cimo, Cheng, Bonato, &

Dewa, 2011), targeting the reduction of STS symptoms and therefore improving their work outcomes.

The meta-analytic results demonstrate similar rates of STS symptoms in the sample of military behavioral health providers and among other high-risk professions such as emergency and rescue workers, substance abuse counselors, and agency-based social workers (Argentero & Setti, 2011; Bride, 2007; Bride et al., 2009). The results of our meta-analysis, indicating similar levels of STS symptoms across the studies, support the validity of our findings and allow for cautious generalizations. A lack of differences across workers exposed to secondary trauma and providing services to various types of clients may indicate that the type of performed work (e.g., social work, education, or counseling; working with traumatized families, children, offenders, military) may play a negligible role in explaining STS symptomatology. On the other hand, although STS levels are similar, its symptoms may be explained by different predictors across populations.

Our findings shed light on exposure-related work characteristics which may contribute to the development of STS. Across the indices of exposure only the ratio of traumatized clients in professional career was associated with STS among providers working with military patients. So far, research indicated that the percent of traumatized clients may be a prevalent stressor among professionals working with traumatized clients (Bride et al., 2009). Voss-Horrell et al. (2011) suggested that secondary exposure characteristics, such as years of experience in trauma treatment, total hours per week spent working with trauma patients, and caseload balance, may have a potential to affect clinicians working with veterans of Iraqi and Afghanistan's operations. These suggestions, however, were based on a review of scarce research conducted among providers serving civilian populations. Results of our study suggest that the multi-dimensional

structure of exposure to secondary trauma at work should be taken into account when predicting STS.

Perhaps the most important correlate to consider refers to perceptions of the negative impact of trauma-related work. The importance of cognitive appraisals of significant environmental stressors (i.e., trauma clinical work) is consistent with the general theories of stress and well-being (Lazarus & Folkman, 1984). Research conducted among workers providing services to civilian population and exposed to secondary trauma indicated that associations between stress appraisal and well-being may be particularly relevant among those with lower personal resources, such as self-efficacy (Prati, Pietrantoni & Cicognani, 2010). Future research should look for individual and organizational resources protecting behavioral health providers who perceive high negative impact of work on their own mental health.

As previously noted, job-related demands (e.g., workload, organizational constraints) and resources (e.g., support from peers or superiors) predict employees' well-being (Cieslak et al., 2007; Van der Doef & Maes, 1999). The present study indicated that a higher number of patients and administrative paperwork constitute important work-related demands, associated with higher levels of STS. Voss-Horrell et al. (2011) listed caseload size and a lack of availability of support as the potentially critical job-related demands, influencing well-being of providers working with traumatized veterans of military operations in Iraq and Afghanistan. Our findings are in line with results reported by Devilly et al. (2009) where job stress levels were found to be particularly important in predicting STS.

Work-related resources such as social support and peer supervision were unrelated to STS levels. This finding is in contrast to other research, suggesting that more support from colleagues and supervisory support were related to lower STS among workers providing services

to civilians (Argentero & Setti, 2011; Choi, 2011b; Creamer & Liddle, 2005). Voss-Horrell et al. (2011) also listed peer supervision among potential protective factors, relevant for the mental health of providers working with traumatized veterans of operations in Iraq and Afghanistan. Again, this suggestion was made based on research conducted among providers working with civilian populations. One explanation for the discrepancies between the findings might be the unique nature of the chain-of-command in the supervision of military clinicians. Work stress research highlighted the role of support of managers/superiors in predicting employees' mental health (cf. Cieslak et al., 2007). Clearly, the role of work-related support from different sources (supervisors, co-workers, managers) in predicting STS requires further research.

We found that the greater the number of direct exposure to trauma the higher the reported level of STS. This observation is consistent with previous research, conducted among providers working with civilian clients (Pearlman & MacIan, 1995) and in line with the hypothesized determinants of mental health of providers working with military populations (Voss-Horrell et al., 2011). What remains unclear is how personal trauma history inter-relates with work-based demands, indirect exposure, and resources to influence STS. Future research should investigate whether particular types of trauma, such as childhood abuse (cf. Marcus & Dubi, 2006) may play a particularly salient role and moderate the impact of work-related secondary exposure.

Our study has several limitations. A cross-sectional design does not allow for any causal conclusions. The measure designed to capture direct personal exposure was developed for the study and therefore it has not been previously validated. Although applying such assessment methods as the Clinical Administered PTSD-Scale (CAPS) could be superior, an individual clinical assessment was not feasible for the present study. It should be noted that previous research which measured direct exposure and STS applied even more limited assessment

methods such as "Do you have a trauma history?" (Pearlman & MacIan, 1995). Future research should utilize a standardized clinical interview approach in order to secure more accurate assessment of trauma exposure. Finally, a convenience sample was applied instead of random population-based sampling strategy. Further longitudinal studies targeting representative samples of mental health providers serving military men and women are required.

CONCLUSIONS AND FUTURE DIRECTIONS

Previous research targeting behavioral health providers working with military patients has been limited (cf. Peterson, Cigrang, & Isler, 2009). Hypothesized risks and resources factors affecting well-being of behavioral health providers working with military were based on findings predominantly referring to civilian providers working with civilian clients (Voss-Horrell et al. 2011). Our study is among the first showing empirical evidence for high prevalence of STS (19.2%) among providers working with the military. Results of meta-analysis contribute to the literature showing that the rates of STS prevalence are similar across samples of workers performing different type of duties, in various populations of clients. Further, the present research highlights the need of multi-dimensional evaluation of secondary exposure, with only one dimension (ratio, i.e, high percentage of traumatized clients in one's professional career) emerging as a significant correlate of STS. In line with research conducted among workers providing services to traumatized civilians we found that personal history of trauma and constraints related to patient load are associated with STS levels.

Further theory-based research is needed in order to evaluate the role of risk and protective factors related to psychological resiliency factors (Maguen et al., 2008) such as self-efficacy (Prati et al., 2010) or support from superiors (Cieslak et al., 2007) in predicting STS. There is a lack of studies investigating how STS interfaces with other critical negative (e.g., burnout) and

positive (e.g., posttraumatic growth) outcomes. Such studies will provide a critical insight into mechanisms responsible for the onset and maintenance of mental health problems and thus inform the development of theory- and evidence-based supportive interventions, needed for military behavioral health providers.

REFERENCES

Adams RE, Boscarino JA, Figley CR (2006). Compassion fatigue and psychological distress among social workers: A validation study. *Am J Orthopsychiatry* 76:103–108.

American Psychiatric Association (2000) *Diagnostic and statistical manual of mental disorders* (4th ed., text rev.). Washington, DC: American Psychiatric Association.

Argentero P Setti I (2011) Engagement and vicarious traumatization in rescue workers. *Int Arch Occup Environ Health* 84:67–75.

Ballenger-Browning KK, Schmitz KJ, Rothacker JA, Hammer PS, Webb-Murphy JA, Johnson DC (2011) Predictors of burnout among military mental health providers. *Mil Med* 176:253–260.

Bride BE (2007) Prevalence of secondary traumatic stress among social workers. *Soc Work.* 52:63–70.

Bride BE, Jones JL, Macmaster SA (2007) Correlates of secondary traumatic stress in child protective services workers. *J Evid Based Soc Work* 4:69–80.

Bride BE, Robinson MM, Yegidis B, Figley CR (2004) Development and validation of the Secondary Traumatic Stress Scale. *Res Soc Work Pract.* 14:27–35.

Bride BE, Smith Hatcher S, Humble MN (2009) Trauma training, trauma practices, and secondary traumatic stress among substance abuse counselors. *Traumatology* 15:96 –105.

Brockhouse R, Msetfi RM, Cohen K, Joseph S (2011) Vicarious exposure to trauma and growth

in therapists: The moderating effects of sense of coherence, organizational support, and empathy. *J Trauma Stress* 24:735–742.

Choi GY (2011a) Secondary traumatic stress of service providers who practice with survivors of family or sexual violence: A national survey of social workers. *Smith Coll Stud Soc Work* 81:101–119.

Choi GY (2011b) Organizational impacts on the secondary traumatic stress of social workers assisting family violence or sexual assault survivors. *Adm Soc Work* 35:225–242.

Cieslak R, Knoll N, Luszczynska A (2007) Reciprocal relations among job demands, job control, and social support are moderated by neuroticism: A cross-lagged analysis. *J Vocat Behav* 71:84–96.

Creamer TL, Liddle BJ (2005) Secondary traumatic stress among disaster mental health workers responding to the September 11 attacks. *J Trauma Stress* 18:89–96.

Dalgleish T (2004) Cognitive approaches to posttraumatic stress disorder: The evolution of multirepresentational theorizing. *Psychol Bull.* 130:228–260.

Deighton RM, Gurris N, Traue H (2007) Factors affecting burnout and compassion fatigue in psychotherapists treating torture survivors: Is the therapist's attitude to working through trauma relevant? *J Trauma Stress.* 20:63–75.

Devilly GJ, Wright R, Varker T (2009) Vicarious trauma, secondary traumatic stress or simply burnout? Effect of trauma therapy on mental health professionals. *Aust N Z J Psychiatry* 43:373–385.

Dominguez-Gomez E, Rutledge DN (2009) Prevalence of secondary traumatic stress among emergency nurses. *J Emerg Nurs* 35:199–204.

Ehlers A, Clark DM (2000) A cognitive model of posttraumatic stress disorder. *Behav Res Ther* 38:319–345.

Elwood LS, Mott J, Lohr JM, Galovski TE (2011) Secondary trauma symptoms in clinicians: A critical review of the construct, specificity, and implications for trauma-focused treatment. *Clin Psychol Rev* 31:25-36.

Figley CR (2002) Compassion fatigue: Psychotherapists' chronic lack of self care. *J Clin Psychol* 58:1433–1441.

Galek K, Flannelly KJ, Greene, PB, Kudler T (2011) Burnout, secondary traumatic stress, and social support. *Pastoral Psychol.* 60:633–649.

Jenkins SR, Baird S (2002) Secondary traumatic stress and vicarious trauma: A validational study. *J Trauma Stress* 15:423–432.

Kessler RC, Berglund P, Demler O, Jin R, Merikangas KR, Walters EE (2005) Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National Comorbidity Survey Replication. *Arch Gen Psychiatry* 62:593–602.

Kessler RC, Chiu WT, Demler O, Merikangas KR, Walters E E (2005) Prevalence, severity, and comorbidity of 12-month DSM-IV disorders in the National Comorbidity Survey Replication. *Arch Gen Psychiatry* 62:617–627.

Lazarus RS, Folkman S (1984) *Stress, appraisal, and coping.* New York: Springer.

Marcus S, Dubi M (2006) The relationship between resilience and compassion fatigue in counselors. In GR Walz, JC Bleuer, KK Yep RK (Eds), *Vistas: Compelling perspectives on counseling* (pp 223-225). Alexandria, VA: American Counseling Association.

Maguen S, Turcotte DM, Peterson AL, Dremsa TL, Garb HN, McNally RJ, Litz BT (2008) Description of risk and resilience factors among military medical personnel before

deployment to Iraq. *Mil Med.* 173:1-9.

McCann IL, Pearlman LA (1990) Vicarious traumatization: A framework for understanding the psychological effects of working with victims. *J Trauma Stress* 3:131–149.

Norris FH (1990) Screening for traumatic stress: A scale for use in the general population. *J Appl Soc Psychol* 20:1704–1718.

Pearlman LA, Mac Ian PS (1995) Vicarious traumatization: An empirical study of the effects of trauma work on trauma therapists. *Prof Psychol Res Pr* 26:558–565.

Perez LM, Jones J, Englert DR, Sachau D (2010) Secondary traumatic stress and burnout among law enforcement investigators exposed to disturbing media images. *J Police Crim Psychol* 25:113–124.

Peterson AL, Cigrang JA, Isler WC (2009) Future directions: Trauma, resilience, and recovery research. In SM Freeman, B Moore, A Freeman (Eds), *Living and surviving in harm's way: A psychological treatment handbook for pre-and post-deployment of military personnel* (pp. 467-493). New York: Routledge.

Prati G, Pietrantoni L Cicognani E (2010) Self-efficacy moderates the relationship between stress appraisal and quality of life among rescue workers. *Anxiety Stress Coping* 23:463-470.

Quinal L, Harford S, Rutledge DN (2009) Secondary traumatic stress in oncology staff. *Cancer Nurs* 32:E1–E7.

Richardson LK, Frueh BC, Acierno R (2010) Prevalence estimates of combat-related post-traumatic stress disorder: A critical review. *Aust N Z J Psychiatry* 44:4–19.

Rosenheck RA, Fontana AF (2007) Recent trends in VA treatment of post-traumatic stress disorder and other mental disorders. *Health Aff* 26:1720–1727.

Sabin-Farrell R, Turpin G (2003) Vicarious traumatization: Implications for the mental health of health workers? *Clin Psychol Rev* 23:449–480.

Smith Hatcher S, Bride BE, Oh H, Moultrie King D, Franklin Catrett J (2011) An assessment of secondary traumatic stress in juvenile justice education workers. *J Correct Health Care* 17:208–217.

Stergiopoulos E, Cimo A, Cheng C, Bonato S, Dewa CS (2011) Interventions to improve work outcomes in work-related PTSD: a systematic review. *BMC Public Health.* 31:e838.

Van der Doef M, Maes S (1999) The Job Demand-Control (-Support) Model and psychological well-being: A review of 20 years of empirical research. *Work & Stress* 13:87–114.

Voss Horrell SC, Holohan DR, Didion LM, Vance GT (2011) Treating traumatized OEF/OIF veterans: How does trauma treatment affect the clinician? *Prof Psychol Res Pr* 42:79–86.

Wald J Taylor S (2009) Work impairment and disability in posttraumatic stress disorder: A review and recommendations for psychological injury research and practice. *Psychol Inj Law* 2:254-262.

Table 1

Demographic and Work Characteristics of Behavioral Health Providers Participating in the SupportNet Study

Characteristic	*n*	%	Characteristic	*n*	%
Gender			Employment		
Male	75	33	Part-time	49	22
Female	149	67	Full-time	175	78
Relationship status			Military experience		
Long-term committed relationship	169	75	No military service	125	56
Not in a relationship	50	22	Active or former military	98	44
Profession			Deployment	43	19
Clinical psychologist	102	45	Therapy: CBT	201	90
Counselors or psychotherapists	70	31	Therapy: CPT	95	42
Social workers	52	23	Therapy: PE	68	30
Education			Therapy: EMDR	64	29
Master's degree	103	46	Work setting		
Doctorate or professional degree	120	54	On-post providers	127	57
			Off-post providers	97	43

Note. $N = 224$ for total sample. Frequencies may not add up to 224 due to missing data. Percentages may not sum up to 100% because of missing data or due to rounding.

Table 2

Descriptive Statistics for the Demographics, Work, and Exposure Characteristics

Variables	*M*	*SD*	Range	
			Actual	Potential
Age	48.92	13.04	28–80	–
Work experience	16.40	10.42	1–45	–
Work characteristics and professional support				
Too much paperwork	2.79	1.31	1–5	1–5
Too many patients	2.01	1.23	1–5	1–5
Hours of individual clinical supervision or consultation per month	2.51	3.90	0–28	–
Hours of group clinical supervision or consultation per month	2.17	3.25	0–20	–
Frequency of peer supervision	4.32	1.49	1–7	1–7
Direct exposure	3.24	1.84	1–9	0–10
Indirect exposure to trauma				
Diversity of exposure	7.41	2.18	1–10	0–10
Volume	5.62	0.97	2–7	1–7
Frequency	6.17	0.96	3–7	1–7
Ratio: Percentage of traumatized patients	63.32	25.25	2–100	0–100
Ratio: Percentage of patients describing a graphic military combat experience	32.02	28.54	0–100	0–100
Appraisal of indirect trauma exposure	3.34	0.77	1–6	1–7
Secondary traumatic stress	31.91	10.65	17–66	17–85

Table 3

Frequency and Percentage of Behavioral Health Providers Meeting Diagnostic Criteria for Secondary Traumatic Stress Criteria Due to an Indirect Trauma Exposure through a Practice with Traumatized Military Patients

Criteria	*n*	%
None criteria met	76	33.9
Criterion B: Intrusion	129	57.6
Criterion C: Avoidance	67	29.9
Criterion D: Arousal	79	35.3
Criteria B and C	53	23.7
Criteria B and D	66	29.5
Criteria C and D	51	22.8
Criteria B, C, and D	43	19.2

Table 4

Comparing Intensity of Intrusion, Avoidance, Arousal, and Total Score of the STSS In the SupportNet Study with Results Obtained in Other Studies

Study	Participants (*N*)	Intrusion *M* (*SD*)	Avoidance *M* (*SD*)	Arousal *M* (*SD*)	Total score *M* (*SD*)
SupportNet Study	Behavioral health providers working with military trauma (224)	8.91 (2.96)	13.33 (5.06)	9.68 (3.63)	31.91 (10.65)
Bride (2007)	Social workers (276)	8.18 (3.04)	12.58 (5.00)	8.93 (3.56)	29.69 (10.74)
Bride, Jones, & Macmaster (2007)	Child protective services workers (187)	10.97 (4.07)	15.64 (5.98)	11.58 (4.22)	38.20 (13.38)
Bride, Smith Hatcher, & Humble (2009)	Substance abuse counselors (225)	8.83 (3.28)	13.14 (5.54)	9.27 (4.10)	31.20 (12.30)
Choi (2011a)	Providers for survivors of family or sexual violence (154)	9.10 (2.90)	13.40 (5.00)	9.5 (3.5)	32.07 (10.39)
Smith Hatcher, Bride, Oh, Moultrie King, & Franklin Catrett (2011)	Juvenile justice education workers (89)	10.64 (3.19)	15.73 (4.90)	11.37 (3.79)	37.74 (10.74)

Table 5

Meta-Analysis Results for Severity of Secondary Traumatic Stress Symptoms

Secondary traumatic stress	*k*	*M*	Heterogeneity		95% CI for *M*		*Z*
			Q	I^2	Lower Level	Upper Level	
Intrusion	6	9.41	87.84***	94.31	8.63	10.19	23.58***
Avoidance	6	13.93	52.50***	90.48	12.94	14.92	27.49***
Arousal	6	10.03	70.02***	92.86	9,20	10.86	23.76***
Total score	6	32.91	132.98***	96.24	29.51	36.31	18.96***

***$p < .001$, $N = 1{,}155$

Table 6

Correlations between Study Variables

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Age	_													
2. Work experience	.77***	_												
Work characteristics and professional support														
3. Too much paperwork	.03	.05	_											
4. Too many patients	-.19**	-.12	.49***	_										
5. Hours of individual clinical supervision or consultation per month	-.34***	-.35***	.07	.07	_									
6. Hours of group clinical supervision or consultation per month	-.28***	-.31***	.12	.11	.51***	_								
7. Frequency of peer supervision	-.25***	-.13	.05	.09	.31***	.32***	_							
8. Direct exposure	.17*	.12	.16*	.09	-.02	.06	.01	_						
Indirect exposure														
9. Diversity	.09	.09	-.03	-.08	-.07	.03	.08	.15*	_					
10. Volume	.00	.17*	.20**	.19**	-.04	-.07	.17**	.15*	.26***	_				
11. Frequency	-.06	-.01	.06	.15*	.11	-.01	.32***	.07	.15*	.49***	_			
12. Ratio: Percentage of traumatized patients	.04	-.01	.05	.08	.04	.04	.09	.15*	.14*	.26***	.40***	_		
13. Ratio: Percentage of patients describing a graphic military combat experience	-.29***	-.17*	.02	.27***	.12	-.09	.19**	.05	-.10	.17*	.23***	.30***	_	
14. Appraisal of indirect trauma exposure	-.10	-.04	-.09	-.12	.08	-.06	.15*	-.01	.17**	.21***	.08	-.11	-.10	_
15. Secondary traumatic stress	.00	.02	.23***	.35***	.06	.09	-.01	.21***	-.01	.05	-.08	.14*	.13	-.37***

*$p < .05$. ***$p < .01$. ***$p < .001$.

Appendix IX

Conference Submissions for the Annual Meeting of the International Society for Traumatic Stress Studies, Los Angeles, November, 2012

Prevalence of and Risk Factors for Secondary Traumatic Stress among Mental Health Providers Working with the Military:
Valerie J. Anderson, Charles C. Benight, Roman Cieslak, Judith Bock

The purpose of this study was to investigate the prevalence and risk factors for secondary traumatic stress (STS) in mental health providers working with military clients ($N = 224$) and to test if the provider's positive or negative appraisal of the impact of indirect exposure to trauma mediates the effects of indirect exposure on STS. The prevalence rate of STS was 19.2%. Gender, age, profession, military experience, deployment to a combat zone, therapeutic protocol, and indirect trauma exposure had no direct effect on STS. Providers' personal history of trauma ($\beta = 0.16$, $p = 007$), perception of having too many clients ($\beta = 0.28$, $p = 001$), and negative appraisal of the impact of indirect exposure ($\beta = -0.34$, $p = 001$) were predictive of a high level of STS. The effect of indirect exposure on STS was mediated by appraisal of the impact of this indirect exposure: indirect exposure was predictive of more positive appraisal of this exposure and that positive appraisal predicted lower STS (bootstrap 95% CI [-0.685, -.038]). The importance of the risk factors, particularly the cognitive appraisal of the impact of indirect exposure, will be discussed in the context of possible interventions for preventing STS.

The Indirect Effects of Secondary Traumatic Stress on Posttraumatic Growth in Behavioral Health Providers Working with Military Clients: The Role of Social Support and Self-Efficacy
Judith Bock, Valerie Anderson, Charles C. Benight, and Roman Cieslak

The literature on secondary traumatic stress (STS) has primarily focused on the relationship between indirect trauma exposure and specific positive and negative outcomes, such as levels of STS and posttraumatic growth. However, this study shifted the focus and used indirect exposure as a control variable in order to more closely examine the relationship between levels of STS and posttraumatic growth with social support and self-efficacy as mediators. A sample of behavioral health providers working with military clients was used (N = 266). Results of a multiple mediation analysis showed that when controlling for indirect exposure, secondary traumatic stress had a significant negative indirect effect on posttraumatic growth through both social support and self-efficacy individually as well as when these mediators were operating in sequence. The results also showed STS had a significant negative direct effect on both social support and self-efficacy and a positive direct effect on posttraumatic growth. In addition, both social support and self-efficacy had a positive direct effect on posttraumatic growth, and social support had a positive direct effect on self-efficacy. The results suggest clinical interventions for STS in military behavioral health providers would benefit by targeting social support and self-efficacy to enhance posttraumatic growth.

The Regressive Coping Scale: Evaluating the Risk Factors for Job Burnout
Morgan Clinton, Charles C. Benight, Roman Cieslak, Judith Bock, and Valerie Anderson.

Regressive coping is a maladaptive defense mechanism that is caused by overtaxing stressful or traumatic demands. The study investigates the role of regressive coping as a predictor of job burnout in behavioral health providers working with military (N = 247). We developed a Regressive Coping Scale and evaluated its psychometric parameters. A total of 25 items were designed to cover three primary areas of regressive coping: self-care, interpersonal interacting, and acting out behaviors. The results showed good reliability of the measure (Cronbach's alpha = .91). Results of a hierarchal regression showed that regressive coping introduced in Step 3 was a positive predictor of job burnout (Beta .44, p = .001) after controlling for age (Beta = -.14, **p** = .003) and gender (p = ns) in Step 1 and indirect exposure to trauma (p = ns), social support (p = ns), and secondary trauma self-efficacy (Beta = -.28, p = .001) in Step 2. The amount of job burnout variance explained by all of the predictors was 50% and regressive coping alone accounted for 11%. Results indicate that regressive coping is a significant risk factor for developing job burnout. These findings have theoretical and practical implications for intervening on job burnout for healthcare professionals.

The indirect effect of secondary traumatic stress on work engagement: The role of negative beliefs and job burnout.
Sandra Taylor, Charles C. Benight, Roman Cieslak, Judith Bock, and Valerie Anderson.

The literature on secondary traumatic stress (STS) views work engagement as a positive outcome distinct from job burnout. This study investigated the mediational effects of negative world beliefs and job burnout symptoms on the relationship between STS and work engagement in military behavioral health providers ($N = 271$). Results of a multiple mediation analysis showed that STS had a significant indirect effect on work engagement through negative beliefs and burnout (*CI*: -.026, -.012) or through burnout alone (*CI*: -.028, -.012). STS did have a positive effect on negative beliefs, but negative beliefs alone did not mediate the effect of STS on work engagement. STS had a positive association with negative beliefs, those beliefs related positively with job burnout, which in turn had a negative association with work engagement. Results showed that STS has an indirect effect on work engagement and that in that process negative beliefs distorted by STS are indirectly related to work engagement through job burnout. Due to the cross-sectional nature of these data no causation can be inferred. These findings have theoretical and practical implications for intervening on secondary traumatic stress.

Symposium: Secondary Traumatic Stress and Job Burnout: Risk and Protective Factors
Chair: Roman Cieslak
Discussant: Alexander McFarlane
Presenters: Charles C. Benight. Brian E. Bride, Roman Cieslak

Introduction:
Although there are more than 400 publications that discuss both secondary trauma and job burnout, only about the half of them analyzed empirical data. The lack of empirical studies is surprising considering the fact that job burnout and vicarious trauma are broadly discussed among practitioners and that many seminars and self-help books are offered on the market. Moreover, many empirical studies in this field suffer from theoretical and methodological shortcomings (such as inadequate conceptualization and measurement, small samples, and a lack of a cross-cultural perspective). In the face of these shortcomings several questions can be raised. What do we really know about the relationship between secondary traumatic stress and job burnout? Are risk and protective factors similar for both of these variables? What are the effects of these variables on other work-related outcomes? Our symposium looks for the answers by presenting results from a series of studies conducted on carefully selected populations (e.g., military behavioral health providers, social workers) coming from different cultural contexts. The studies illustrate social, cognitive, and emotional processes involved in the development and consequences of secondary traumatic stress and job burnout. These issues have direct effects on the quality of life for practitioners and the effectiveness of their interventions.

Presentation 1
The indirect effect of work-related stressors on secondary traumatic stress and job burnout
Charles C. Benight, Valerie Anderson, Judith Bock, Roman Cieslak, Bret A. Moore, and Alan L. Peterson

The current literature on secondary trauma and burnout in military behavioral health providers is limited. This study utilized social cognitive theory and investigated the indirect effect of work related stressors on secondary traumatic stress and job burnout in behavioral health providers working with military patients ($N = 247$). We tested if the effect of organizational stressors on secondary traumatic stress and job burnout was mediated by work-related social support and self-efficacy. Results of a multiple mediation analysis showed that controlling for the effect of indirect exposure to trauma, organizational stressors had a significant indirect positive effect on secondary traumatic stress (bootstrap 95% CI = [0.001, 0.004])and job burnout (95% CI = [0.001, 0.004])through social support and self-efficacy (with social support affecting self-efficacy) or through self-efficacy only (95% CI = [0.007, 0.018]; 95% CI = [0.006, 0.017], respectively). Social support alone did not mediate the effect of organizational stressors on the outcomes. Organizational stressors had a negative direct effect on job burnout, but not on secondary traumatic stress. Results showed that environmental factors (e.g., organizational stressors) influence negative outcomes (e.g., secondary traumatic stress or job burnout) through social and self-regulatory processes. The theoretical and practical implications will be discussed.

Presentation 2
The Role of Empathy in Secondary Traumatic Stress among Clinical Social Workers
Brian E. Bride and Jacquelyn Lee

Clinician empathy has long been considered a primary component of the secondary traumatization process. However, there is a paucity of empirical investigations into the role of empathy in the development of secondary traumatic stress. This study investigated the effect of empathy on secondary traumatic stress, controlling for burnout, in a national sample of clinical social workers (*N* = 458). Guided by Gerdes and Segal's four component conceptualization of empathy, we used multiple mediation analysis to test if social worker empathy mediated the effect of clinical work with traumatized clients on secondary traumatic stress. Results indicated the clinical exposure to traumatized clients had both a direct and indirect effect on secondary traumatic stress that was statistically significant. Exposure was negatively mediated by emotional regulation (bootstrap 95% CI = [-0.1188, -0.0033]) and self-other awareness (bootstrap 95% CI = [-0.1526, -0.0135]). Affective sharing and perspective taking did not significantly mediate the relationship between exposure and secondary traumatic stress. The theoretical and practical implications will be discussed.

Presentation 3
The Effects of Secondary Traumatic Stress on Work Engagement: The Mediating Role of Self-Efficacy and Job Burnout
Cieslak Roman, Katarzyna Zukowska, Ewelina Smoktunowicz, and Charles C. Benight

The consequences of the secondary traumatic stress are not sufficiently identified. This six month longitudinal study aimed at investigating the direct and indirect effects of secondary traumatic stress on work engagement in 178 professionals (i.e., social workers, first responders, and probation officers) working with individuals who experienced trauma. Specifically, we tested if the effects of secondary traumatic stress on work engagement were mediated by perceived social support, self-efficacy, and job burnout. Multiple mediation analysis indicated that controlling for the baseline level of work engagement, the indirect negative effect of time 1 secondary traumatic stress on time 2 work engagement was operating through self-efficacy and job burnout in sequence (with self-efficacy affecting job burnout; bootstrap 95% CI = [-0.075, -0,009]) and through job burnout alone (bootstrap 95% CI = [-0.189, -0.028]). Social support did not mediate the effect of secondary traumatic stress on work engagement and there was no direct effect of time 1 secondary traumatic stress on time 2 work engagement. Results have implications for planning organizational and individual interventions focusing on self-efficacy enhancement and on job burnout prevention.

Appendix X

Functional Requirements Document

CONTENTS

1 INTRODUCTION

Program: SupportNet for Frontline Behavioral Health Providers: Secondary Trauma and Burnout.

1.1 Purpose

This functional requirements document provides the information necessary to guide the development of an internet-based supportive intervention for mental health providers working with military clients. It will serve as the basis for the Statement of Work from BlueSun, Inc. Works from this project will be the property of University of Colorado.

1.2 Scope

This document will address the requirements for the internet portion of the SupportNet for Frontline Behavioral Health Providers (the "System") program only.

1.3 Background

This system is part of an overall supportive intervention for behavioral health providers. The program is sponsored by the US Army Medical Research and Materiel Command, Telemedicine & Advanced Technology Research Center (TATRC) in connection with a grant to the Trauma Health and Hazards Center at the University of Colorado at Colorado Springs.

1.4 Team Members and Roles

The team responsible for designing, developing, implementing, and evaluating this System includes:

Dr. Charles (Chip) Benight is the chief executive for this project. He is a stakeholder in the design, implementation, and evaluation of the system. He has final approval authority over issues of finance, design, implementation, outcomes measures, program evaluation, and product design.

Dr. Valerie Anderson is the UCCS liaison for the project. She is responsible for developing the functional requirements for the system and managing the development relationship between UCCS and Blue Sun. She is responsible for developing and implementing the clinical interventions that make up this project.

Dr. Judith Bock is a UCCS therapist for the System. She is responsible for providing therapy services and, as a Human Factors Engineer, is a stakeholder in the design of the system.

Dr. Robert (Bob) Durham is a UCCS faculty member and serves as the external evaluator for the System portion of the grant. He is a stakeholder in the design of the system as it relates to measuring efficacy, engagement, ease-of-use, and replication potential for the System.

Carrie Yaeger is a Blue Sun contractor responsible for designing and developing the system according to the requirements provided by UCCS. She is a stakeholder in the design and implementation of the system as well as its reliability and stability after release.

Dr. Roman Cieslak is a UCCS Director of Research. He is responsible for research design and implementation including the Objective 1 research project that will inform the implementation details of

this system. He is also responsible for design and implementation of a randomized controlled trial (RCT) that will be conducted using the System.

1.5 Assumptions and Constraints

The project includes some important assumptions and constraints.

1.5.1 Assumptions

It is assumed that the requirements will be identified and documented by February 28, 2012 and that all stakeholders have provided input by that time. It is assumed that BlueSun will have the requisite technical and business resources necessary to negotiate a development contract. Availability of hardware and software platforms for development and deployment of the System by Blue Sun is assumed.

1.5.2 Constraints

The project may be constrained by availability of qualified technical personnel and unexpected hardware or software problems.

1.6 Document Overview

This document describes the methodology for the project along with functional and operational requirements.

2 METHODOLOGY

Drawing from recommendations by Van Gemert-Pijnen et al. (2011) who *"emphasized the importance of a participatory development process involving (end) users—and other stakeholders such as payers, decision makers, insurers, and government officials—to increase the uptake of eHealth technologies"* the functional requirements will be developed and tested using the following procedure:

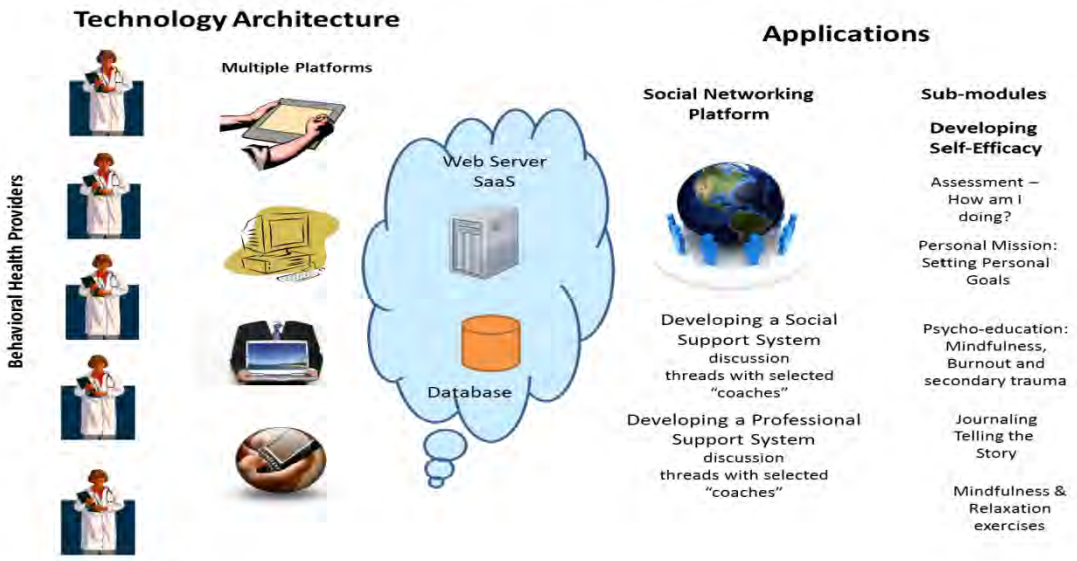
1. Using Social Cognitive Theory and incorporating concepts from the Accelerated Recovery Program (ARP), capabilities and modules will be defined to form the foundation of the System.
2. Identify the requirements for each of the modules in a preliminary functional specification such that a user-interface prototype can be developed.
3. Review and approve the prototype by the intervention and external evaluation teams.
4. Conduct focus group sessions with prospective users from Fort Carson for feedback.
5. Document and incorporate feedback into the final functional specification.
6. Blue Sun converts the functional specification into a Scope of Work with a project plan and milestones
7. Phase I product (as defined in the Blue Sun Scope of Work) released to internal teams for review and beta test.
8. Phase I product reviewed with focus group(s).
9. Phase I product released to users in a controlled release.

3 FUNCTIONAL REQUIREMENTS

3.1 Context

The system will be implemented as described in the diagram below.

Figure 1 – Technology and Application Architecture Diagram



3.2 User Requirements

Users of the system will be mental or behavioral health providers seeking support for job burnout and secondary traumatic stress from working with traumatized clients. Users have a broad range of professional education, professional stressors, and familiarity with technology. At one end of the spectrum are users who work with clients/patients in a case management capacity. They are likely to lack training and experience in working with traumatized clients/patients in a therapeutic relationship. Their understanding of psychological theory and practice is limited and may be more susceptible to burnout due to lack of comfort with the people they work with each day. On the other end of the spectrum are users who are medical or psychological professionals with advanced, often doctoral level, degrees. They are trained in therapeutic interventions for trauma and work with traumatized clients/patients as the primary focus of their jobs.

Users of the system are likely to also have a broad range of comfort with technology. At one end of the spectrum, users may not be familiar with the interactional standards of common web-based systems. They may also be unfamiliar with more contemporary technology such as Smart phones and tablet computing. On the other end of the spectrum may be the "power user" who is comfortable with newer technologies and may have expectations about how the system will operate based on experience with other web-based and Smart phone applications.

The system needs to be able to meet the usability requirements of a broad range of users. The design should be a Motivational Design (Visser & Keller, 1990) that incorporates user motivation and social engagement to provide support in an effective and engaging manner. User experience will be measured according to the Design Principles promulgated by R. Frank (Frank, 2003) and Visser & Keller (1990).

Motivational design principles focus on motivation as an often missing element of design. It is assumed that most users have little extrinsic motivation to use the System. Therefore, intrinsic motivation factors need to be considered in the design and implementation. Motivation can be influenced by the four factors of the ARCS model (Visser & Keller, 1990): Attention, Relevance, Confidence, and Satisfaction. Attention refers to the extent to which the system will stimulate the user to stay interested in the system and seek to explore topics and modules more deeply. Relevance relates to the extent to which the system meets the goals and expectations of the user. Confidence relates to the user's level of mastery and self-efficacy in using the system and finding information. Satisfaction refers to the positive feedback and increased self-esteem that comes from learning new material and being able to integrate it into a new way of being.

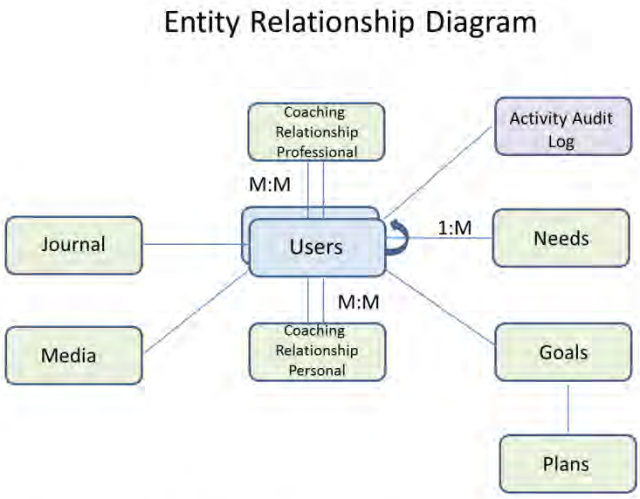
The following design principles are described by Frank (2003):

> Usefulness – The system must provide ". . . accurate content that is relevant . . ." (Frank, 2003, p. 1) for the users. It should use dynamic and graphical content that provides information that is tailored to the user's level of symptoms (as measured by the assessment) and knowledge (as assumed by level of professional education). The user should not be demotivated by being presented with information that is not relevant to their particular needs.
>
> Ease-of-Use – The site should be intuitive and navigation must allow for easy access to information without requiring unnecessary mental energy. Modules and content should be logically ordered and the placement of menus and buttons should be intuitive. The most important information should be at the top of the screen and search capabilities should be available on every form.
>
> Efficiency – The system should be organized in a way that allows for information to flow in a clear, linear way. Unnecessary scrolling should be avoided and short-cuts that allow for movement between modules should be available.
>
> Engagement – The system should engage the user and provide value that encourages the user to return and stay engaged in the process. Use of graphics, video, and audio should be engaging without being annoying.
>
> Trustworthiness – Trust is the foundation of any relationship particularly for online health related systems (Vega, DeHart & Montague, 2011). Trust is also a necessary pre-requisite to building social capital (Adler & Kwon, 2002). The system should contain content that comes from authoritative sources and can be trusted by the user. Content should be evaluated and monitored regularly in order to assure that the latest knowledge is incorporated within it. Users must feel that they are operating within a secure environment where privacy and confidentiality are protected.

3.3 Logical Data Model

The entity-relationship model shown below should serve as a basis for developing a more detailed database design to support the functional and system-level requirements described herein.

Figure 2 – Entity Relationship Diagram



3.4 Functional Requirements – User and Social Support Capabilities

The system should be developed on a platform that supports social networking, engagement, and measuring and developing self-efficacy. The platform should provide the following capabilities:

3.4.1 Registration and Authentication

Users must first register to receive authorization to the application. Only users with a .mil email address will gain access. The registration process will gather basic identifying information such as Name, Photo, Email address, Cell Phone, Location, Position, Areas of Interest, and Qualifications. Other information required to set up social and professional support networks will include personal and professional needs and availability to provide coaching or supervisory support through the network.

Upon initial registration, users will be presented with a disclosure and disclaimer and will be asked to comply with the use conditions of the site before they will receive authorization to use it. As a minimum, the user will be asked to agree to the U.S. Department of Defense Social Media User Agreement which states:

> ***This is the Department of Defense Social Media User Agreement. It has been reviewed and approved for use for all official Department of Defense and Service social media sites. We encourage you to copy and paste this text and/or link to this user agreement page from your social media sites.***

The following User Agreement ("Agreement") governs the use of official Department of Defense social media sites and pages to include social networking pages, blogs and file sharing sites, along with all policies applicable to DoD information. Please read the rules contained in this Agreement carefully. You can access this Agreement any time. Your use of any aspect of the websites will constitute your agreement to comply with these rules. If you cannot agree with these rules, please do not use the websites. The Agreement may be modified from time to time; the date of the most recent revisions will appear on this page, so check back often. Continued access of the website by you will constitute your acceptance of any changes or revisions to the Agreement. Your failure to follow these rules, whether listed below or in bulletins posted at various points in the website, may result in suspension or termination of your access to the website, without notice.
Comments By Others Are Not Endorsed: *The Department of Defense does not necessarily endorse, support, sanction, encourage, verify or agree with the comments, opinions, or statements posted on the website. Any information or material placed online, including advice and opinions, are the views and responsibility of those making the comments and do not necessarily represent the views of the Department of Defense, the United States Government or its third party service providers. By submitting a comment for posting, you agree that the Department of Defense, the United States Government and its third party service providers are not responsible, and shall have no liability to you, with respect to any information or materials posted by others, including defamatory, offensive or illicit material, even material that violates this Agreement.*
Editing and Deletions: *The Department of Defense reserves the right, but undertakes no duty, to review, edit, move or delete any material submitted as a comment to the information provided for display or placed on the social media sites in its sole discretion, without notice. Comments submitted to these sites will be reviewed and a representative sample may be posted on the site or inappropriate comments may be deleted at the sole discretion of the Department of Defense. We hope to receive submissions from all viewpoints, but we ask that all participants agree to the following Terms of Participation:*

- *To ensure constructive questions, please post only questions directly related and relevant to the Department of Defense.*
- *Refrain from posting questions that contain threats, obscenity, material that would violate the law if published here, abusive, defamatory or sexually explicit material.*
- *Submissions containing the following will be deleted:*
- *Contains obscene or threatening language or discrimination (hate speech) based on race, sex, gender, religion, national origin, age, or disability.*
- *Promotes services or products (not including non-commercial links that are relevant to the topic)*
- *Includes any personal or sensitive information (phone numbers, email or postal addresses)*
- *Operational Security (OPSEC). All personnel (including families and friends of service members) have a responsibility to ensure that no information that might put our military members in jeopardy or would be of use to our adversaries is posted to websites that arereadily accessible to the public. Not surprisingly, that information includes, among other things, technical information, operation plans,troop movement schedules, current and future locations of military units and ships, descriptions of overseas bases, details of weaponssystem, or discussions of areas frequented by service members overseas. Other information that's not as obvious but should also not be discussed in an open forum includes daily military activities and operations, equipment status, unit morale, and results of operations. Any of these topics, if*

released in an open medium, have the ability to provide our adversaries opportunities to harm our military members.

External Links (including Advertising Links): *The appearance of external hyperlinks does not constitute endorsement by the Department of Defense of the linked websites, or the information, products or services contained therein. The Department of Defense does not exercise any editorial control over the information you may find at these locations. All links are provided consistent with the stated purpose of these websites.*
Disclaimer: *Reference herein to any specific commercial products, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government, and shall not be used for advertising or product endorsement purposes. With respect to documents available from this server, neither the United States Government nor any of its service members or employees, makes any warranty, express or implied, including the warranties of merchantability and fitness for a particular purpose, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights.*
Last updated 19 January 2011

All user information will be saved to a database and an email verification will be sent to the user. Once the user is authorized and authenticated, he/she will be given access to the system. Access control will consist of a username (email address is preferred) and password specified by the user.

Users will be required to enter their credentials before they will be allowed to subsequently use the system. Users must be able to change their passwords and profile information without requiring human intervention at any time. Users should be classified in terms of their authority to make changes to the system. Only an "administration" user should be able to delete a user and all of his/her information.

To support a planned randomized controlled trial, the system must be designed so that an Informed Consent can be obtained before a user can register to use the system.

3.4.2 The Social Networking Platform

The social networking platform will provide the user with the ability to identify his/her social and professional networks. The importance of developing a social networking system is based on Chen's (2007) view that professional support networks are " . . centered upon communication and interaction of participants to generate member-drive knowledge of a specific domain, and resulting in a relationship being built." This platform will allow for the development of social capital for the organization (see Adler & Kwon, 2002).

The platform should allow the user to locate and invite another user to be part of their "social" or "professional" network. The platform should use the concept of "friends" from other social networking sites (such as Facebook) but the relationship should be referred to as "coach" rather than "friend". The user should be able to locate/find "coaches" and suggest new "coaches" based

on the user's profile and areas of interest and need. Users should be able to set up and manage public or private groups and users should be able to join or invite other users to join those groups. Users who are members of groups can post messages or information on to the group's discussion thread.

3.4.3 The "Home Page"

Once logged in, users will be taken to their home page. The home page will guide the user through the System. The user will be welcomed and offered various choices/suggestions. The content of the Home Page will include:

1) Welcome message with a suggested activity
2) Current status of completion of modules
3) Recent messages from social and professional support networks and groups
4) Most recent assessment results with a link to a graph of assessment history
5) Link to ASSESSMENT module that includes one or more assessment instruments and provides a "score" (see below).
6) Link to LOCATE SUPPORT that allows the user to find support for a particular topic or problem
7) Link to GOALS module with an invitation to set goals, review goals and graphical indicator of progress of current goals (see below).
8) Link to PSYCHOEDUCATION module that will contain content regarding resiliency, mindfulness, burnout, secondary traumatic stress, and compassion fatigue (see below).
9) Link to RELAXATION module that will contain content that will help reduce anxiety and improve self-regulation (see below).
10) Link to JOURNALING module (see below).
11) Coach's recent activities – and suggestions for new coaches
12) Recent posts on managed groups they have joined
13) Recent publications in area of interest (based on user profile)
14) Recent news on areas of interest (relevant RSS feeds)
15) History of activities

3.5 Functional Requirements for Supervisor's Dashboard

(To Be Supplied Later)

3.6 Functional Requirements: Self-Efficacy and Self-Regulation Modules

3.6.1 Assessment

The assessment module should provide the capability to administer and score one or more objective assessments. Initially, the module should provide for support of 3 instruments to measure: burnout, coping self-efficacy and secondary traumatic stress. The user may take the assessment at any time and more than one time. A history of the scores should be stored so that the user can see a graphical history of how they are and have been doing. Depending on the score, the user will be presented with recommendations about what modules might be appropriate for them to address their specific needs. The

content for the assessment instruments and the feedback/recommendations will be developed by the UCCS SupportNet team.

3.6.2 Set Up or Change Goals and Plans

The goals module should allow the user to set up, modify, or delete personal and professional goals and develop a "personal mission statement". These goals should be identified as "personal" or "professional" goals. The system should be pre-loaded with a set of common self-care goals that users can then extract and use. The pre-loaded goals will be identified by the UCCS SupportNet team. Each goal should have a plan attached to it so that users can track their progress on the goals. The system should prompt the user to update their progress on their goals every 7 days from the date the goal was entered and until the goal is complete. If progress is not being made on a goal for 14 or more days, the system should provide the user with information about common obstacles to achieving goals. The content for this information about obstacles will be developed by the UCCS SupportNet team. Goals can be shared with the social support network via the Social Networking platform messaging or posting capability.

3.6.3 Psycho-education

The psycho-education module is a learning resource for information regarding trauma, secondary traumatic stress, burnout, compassion fatigue, and developing resiliency. The content for this module will be in the form of text, graphics, audio clips, and video clips which will be served up to the site from a central content database depending on user demographics. The content will be provided by the UCCS SupportNet team.

3.6.4 Relaxation

The relaxation module will help user's learn to improve self-regulation if they are not already familiar with these skills. The content for this module will be in the form of text, graphics, audio clips, and video clips which will be served up to the site from a central content database depending on user demographics. The content will be provided by the UCCS SupportNet team.

3.6.5 Journaling

The journaling module should be a free-form text subsystem where users can tell their "story". The journal content will be developed by the user. It would not be shared with any other user.

3.7 Functional Requirements: Social Networking Modules

3.7.1 Set Up, Change and Locate Support

The social networking platform should support the ability to insert, change, and delete other users from a personal or professional network or group. Potential support staff, or "coaches", would be recommended based on the user's current physical location. Users should identify their willingness to be a coach for either personal or professional support and should be able to identify their areas of expertise.

3.7.2 Relating Social Support to Goals

The goals module should allow the user to connect a particular coach to a particular goal or set of goals. The user should be able to send updates about progress toward achieving goals to his or her personal or professional network.

3.7.3 Set Up or Change Areas of Interest

Users need to be able to add, change, or delete areas of interest. The areas of interest will be used to customize the kind of information that will be pushed to the user by other users with similar interests or the system.

4 OTHER REQUIREMENTS

4.1 Program Assessment Requirements

Program Assessment requires that the system be able to provide overall site data and individual user data. Site data should include, as a minimum, number of logins each day, number of visits to each page of the site, average length of time spent on each page (visit duration), flow of users between pages, and bounce rates. In addition, each user's behavior should be tracked by recording the number and frequency of logins, visit duration, pages viewed, length of time spent on each page, revisits, and flow between pages. A time-out function should be implemented so that visit duration statistics are not skewed by users who leave their computer for extended periods of time (e.g., users are automatically logged off after 20 minutes of inactivity).

After completion of each module (e.g., psychoeducation, relaxation, etc.) and when a user exits a module, the user should be presented with feedback questionnaires which should be a survey including up to 30 items. The items will be designated by the SupportNet Program Evaluation team. A blank comments box with a prompt for participants to provide comments or open answers should be given. All responses should be traceable back to user ID number so multiple feedback assessments can be compared for the same participant.

4.2 Dynamic Content

Bandura (1990) discusses the impact of "models" in the process of making change and notes that the impact of a model is greater when it matches the user's reference group (demographics such as age, gender, etc.) suggesting that tailoring the multi-media objects to the demographics of the user would increase engagement and skills enhancement. Therefore, the system needs to be able to dynamically load content. The user's demographic information should be captured during the registration process. This information will be used to dynamically select appropriate graphical, video, or audio content in the psycho-education and relaxation modules.

4.3 Software Interfaces

If possible, the system should be able to interface with existing modules that form the BlueSun Disaster or Trauma Recovery sites. In particular, the relaxation and journaling modules could potentially be re-used in this system if it is reasonably and technically possible to do so.

4.4 Communications Interfaces

The system must be platform, operating system, and communications independent. It must be able to run on Explorer, Firefox, and Safari platforms accessing the database through an internet (WAN, LAN or 3/4G) connection.

4.5 Hardware Requirements

The system should run on multiple platforms as described in the technology architecture above. The target platforms are thin-client workstation, personal computer, tablet computer, laptop computer, and SmartPhone devices.

4.6 Operational Requirements

The system needs to be operational 24 hours a day, 7 days a week. It is expected that late night and early morning periods may have slower traffic but the application needs to be available during those times to meet the requirements of users who may be deployed or in overseas locations.

4.7 Security and Privacy

The security and privacy of user data in the system needs to be protected. Because BlueSun will be hosting the System application, the following requirements need to be met.

A. Protection for the following breaches of security needs to be provided:
   1. Loss or corruption of data
   2. Disclosure of secrets or sensitive information
   3. Disclosure of privileged/private information about individuals
   4. Corruption of software or introduction of malware, such as viruses

B. The following type(s) of security are required:
   1. Physical security.
   2. Access by user role or types. Access should be controlled based on user type. An administrative user can set up, change, or delete users but non-administrative users cannot.

4.8 Usage Auditing

The site must track how each user is using the system including the number and frequency of logins, visit duration, pages viewed, length of time spent on each page, revisits, and flow between pages.

4.9 Reliability

System failure will not result in loss of life or revenues. However, users will lose interest and confidence in the system if it is unreliable. Therefore, the goal for system reliability is a mean-time-between-failures of 30 days and mean-time-to-repair of 20 minutes.

4.10 Recoverability

A. In the event the application is unavailable to users (down) because of a system failure it should be returned to service within 20 minutes.

B. In the event the database is corrupted, data needs to be restored to a backup point of no later than current time minus 24 hours.

C. If the processing site (hardware, data, and onsite backup) is destroyed, the system needs to be made available on an alternative site within 12 hours.

4.11 System Availability

The system needs to be available 24 hours a day, 7 days a week. A maintenance period of 2 to 4 hours during the late evening hours on Friday, Saturday, or Sunday is acceptable.

4.12 General Performance

A. Response time for users must be within normal limits for web applications.

B. System throughput must be able to accommodate 100 simultaneous users.

4.13 Data Retention

The system shall retain application information for up to three years. When a user is deleted, his or her application information shall be archived for a period of one year.

4.14 Validation Rules

The system should validate that the user is an authorized user by checking the authorization code provided at registration. Unauthorized users should not be able to access any part of the site except a specific registration page. All user data records should be date- and time-stamped to allow for system audits.

APPENDIX A – REFERENCES

Adler, P. S., & Kwon, S. (2002). Social Capital: Prospects for a New Concept. *Academy of Management, 27*(1), 17-40.

Bandura, A. (1990). Perceived Self-Efficacy in the Exercise of Control over AIDS Infection. *Evaluation and Program Planning,* 13, 9-17

Chen, I. Yl (2007). The factors influencing members' continuance intentions in professional virtual communities - a longitudinal study. *Journal of Information Science, 33*(4), 451-467.

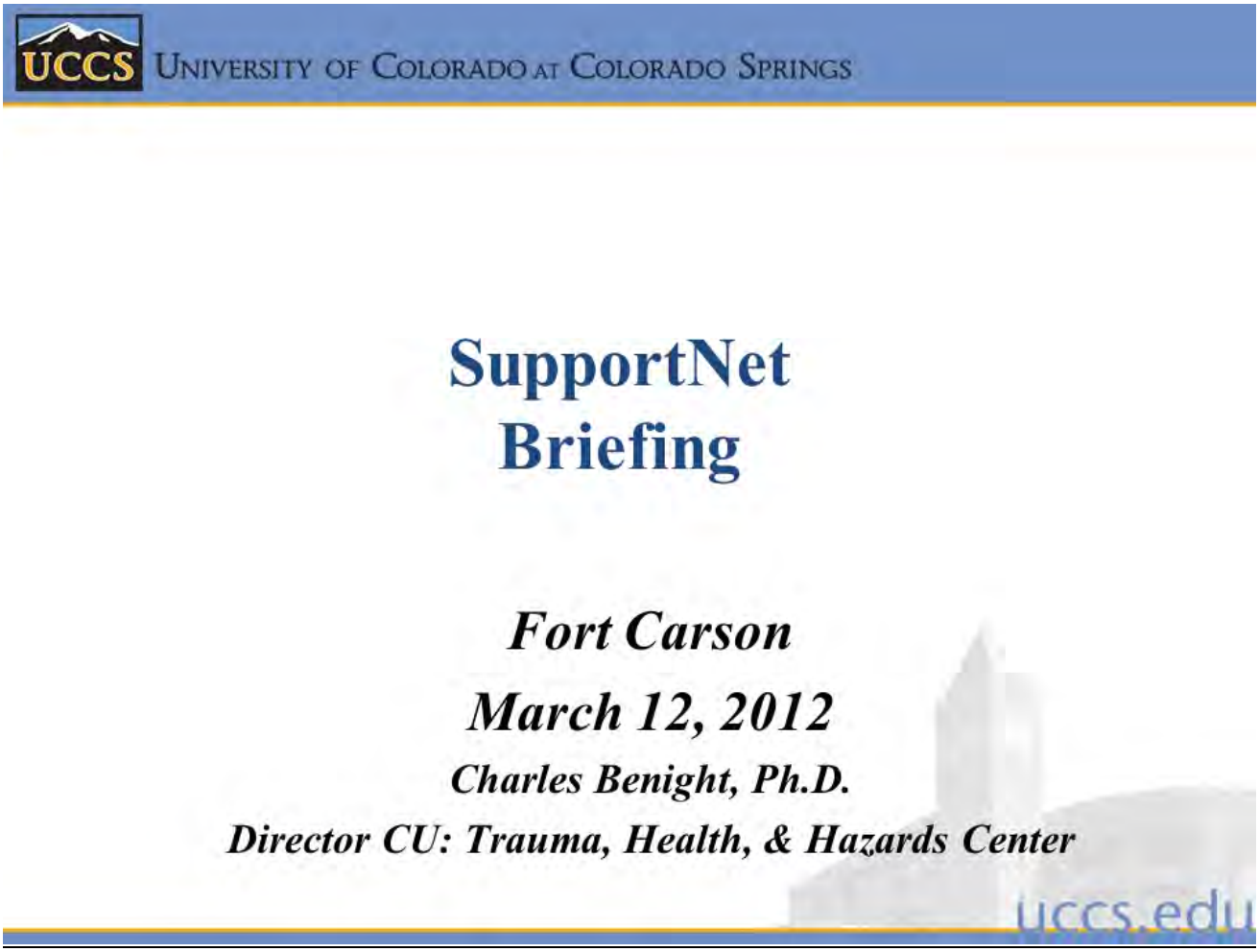
Frank, R. (2003, January). The User-centric Approach to Website Design. Retrieved December 7, 2011, from http://www.swandive.com/portfolio/swandivedigital_usercentric.pdf

Van Gemert-Pijnen, J. E., Nijland, N., Van Limburg, M., Ossebaard, H. C., Kelders, S. M., Eysenback, G., & Seydel, E. R. (2011). A Holistic Framework to Improve the Uptake and Impact of eHealth Technologies. *Journal of Medical Internet Research, 13*(4), 111.

Vega, L.C., DeHart, T. & Montague, E. (2011) Trust between patients and health websites: a review of the literature and derived outcomes from empirical studies. *Health Technology*. 1, 71–80

Visser, J. & Keller, J.M. (1990). The Clinical User of Motivational Messages: an Inquiry into the Validity of the ARCS Model of Motivational Design. *Instructional Science*. 19, 467-500

Appendix XI:


UCCS
University of Colorado at Colorado Springs
SupportNet
Briefing
Fort Carson
March 12, 2012
Charles Benight, Ph.D.
Director CU: Trauma, Health, & Hazards Center
uccs.edu

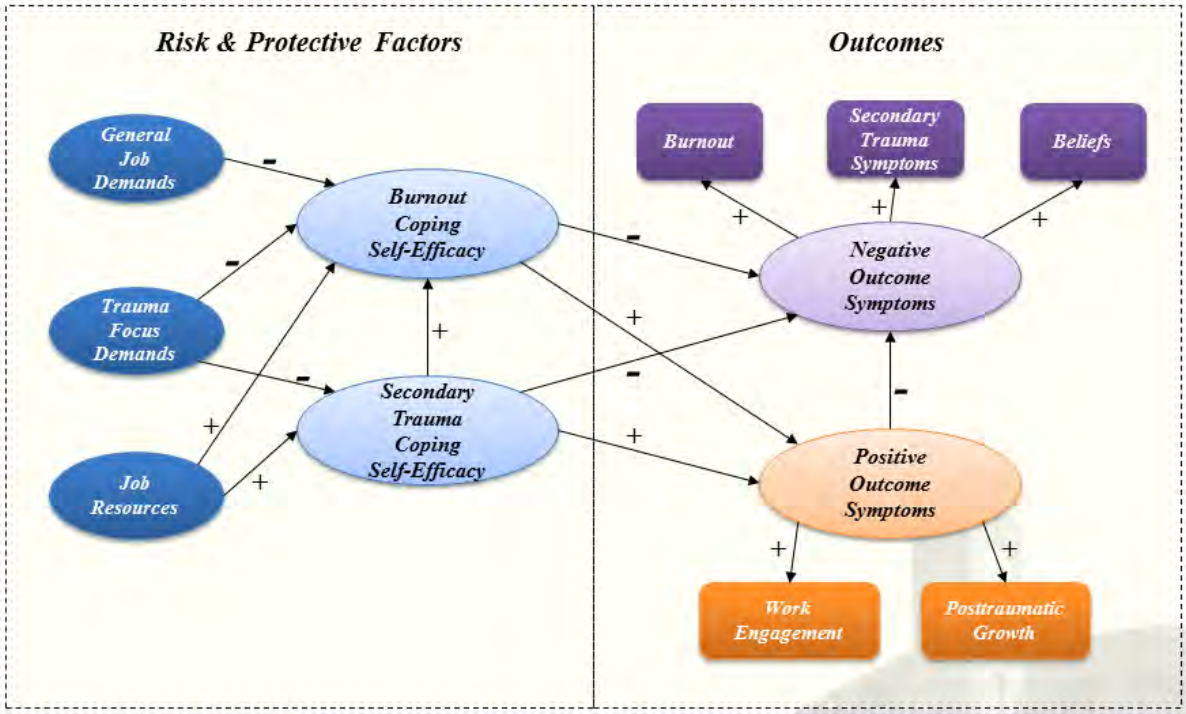
Objectives

Objective 1	Objective 2	Objective 3
July 2011 - June 2012	**March 2012 - June 2013**	**June 2013 – June 2014**
Develop online survey and sample behavioral health providers	Utilize modeling results to develop comprehensive secondary trauma and burnout prevention program.	Conduct randomized control trial to evaluate intervention effectiveness and program and process evaluations to evaluate SupportNet for possible replication.
Approach Using Confirmatory Factor Analysis and structural equation modeling to test our theoretical model.	**Approach** Though cooperation with hospital leadership develop a multifaceted locally responsive program.	**Approach** 2 (intervention, control) x 2 (baseline-- follow-up) trial; program and process evaluations developed and executed.
Technical Milestone A defined mediation model of coping with secondary trauma and burnout.	**Technical Milestone** A replicable multifaceted program for secondary trauma and burnout	**Technical Milestone** Quantitative and qualitative evaluation of program effectiveness and possible replication alternatives.

Team

- Charles (Chip) Benight, PhD – Principle Investigator (PI)
- Roman Cieslak, PhD – Director of Research
- Valerie Anderson, PsyD – Clinical Director
- Judith Bock, PsyD – Clinical Therapist
- Robert Durham, PhD – External Program Evaluator

The Model

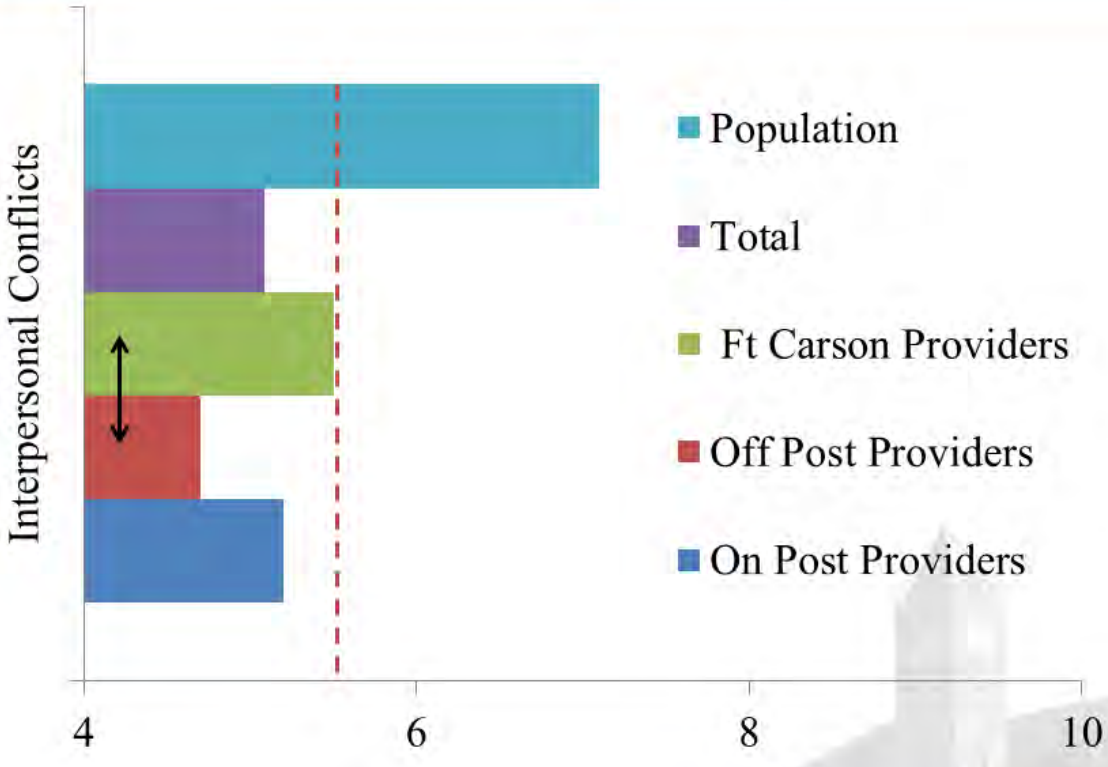

Risk & Protective Factors
Outcomes
General Job Demands
Trauma Focus Demands
Job Resources
Burnout Coping Self-Efficacy
Secondary Trauma Coping Self-Efficacy
Burnout
Secondary Trauma Symptoms
Beliefs
Negative Outcome Symptoms
Positive Outcome Symptoms
Work Engagement
Posttraumatic Growth

SupportNet Study

Participants:	***235 (February 10, 2012)***
On Post Providers:	***119***
Off Post Providers:	***78***
Fort Carson Providers:	***38***

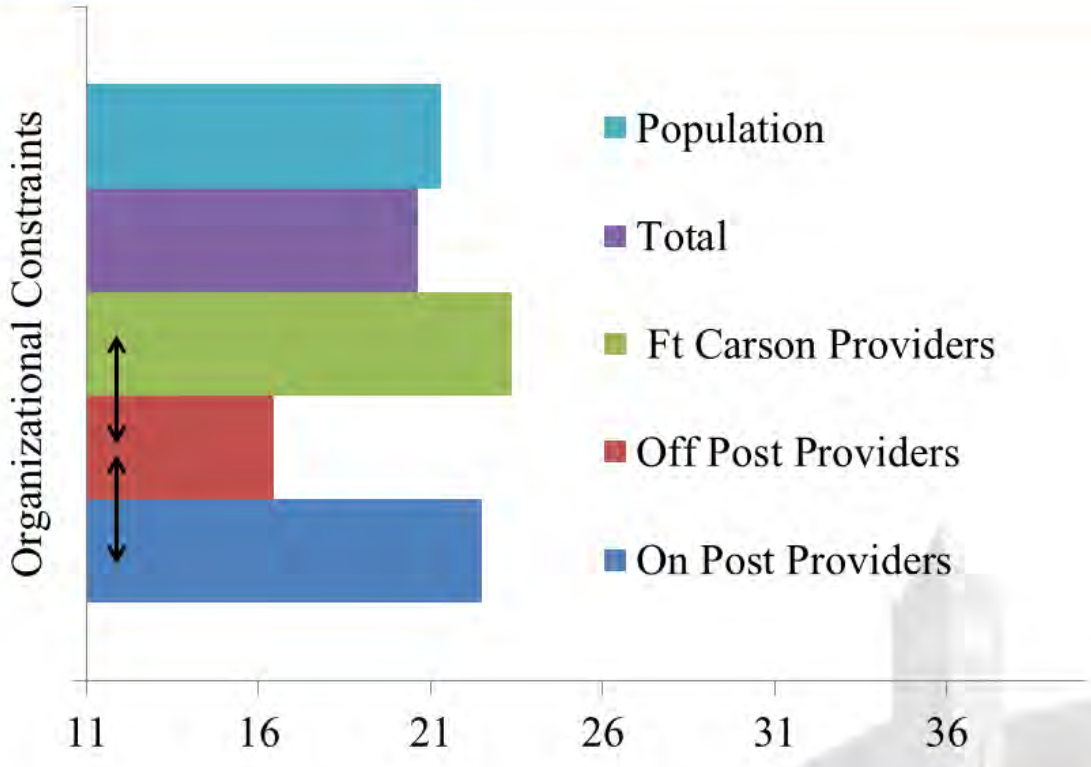
Interpersonal Conflicts

- As measured by the Interpersonal Conflicts at Work Scale (ICAWS)
- Part of the job demands measured in this study
- Assesses the extent to which the provider experiences interpersonal conflict at work.


Interpersonal Conflicts
Population
Total
Ft Carson Providers
Off Post Providers
On Post Providers
4
6
8
10

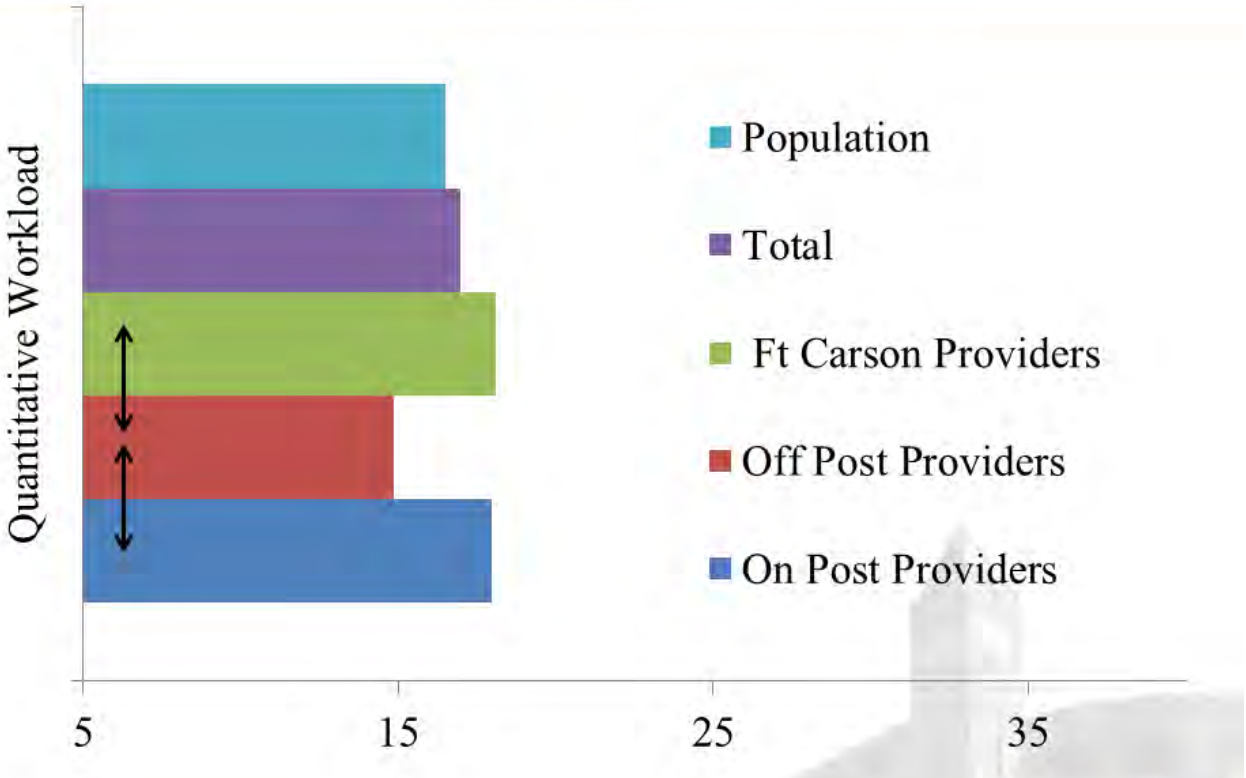
Organizational Constraints

- As measured by the Organizational Constraints Scale (OCS)
- Part of the job demands measured in this study
- Assesses factors like equipment, supplies, interruptions, conflicting work demands, etc.


Organizational Constraints
Population
Total
Ft Carson Providers
Off Post Providers
On Post Providers
11
16
21
26
31
36

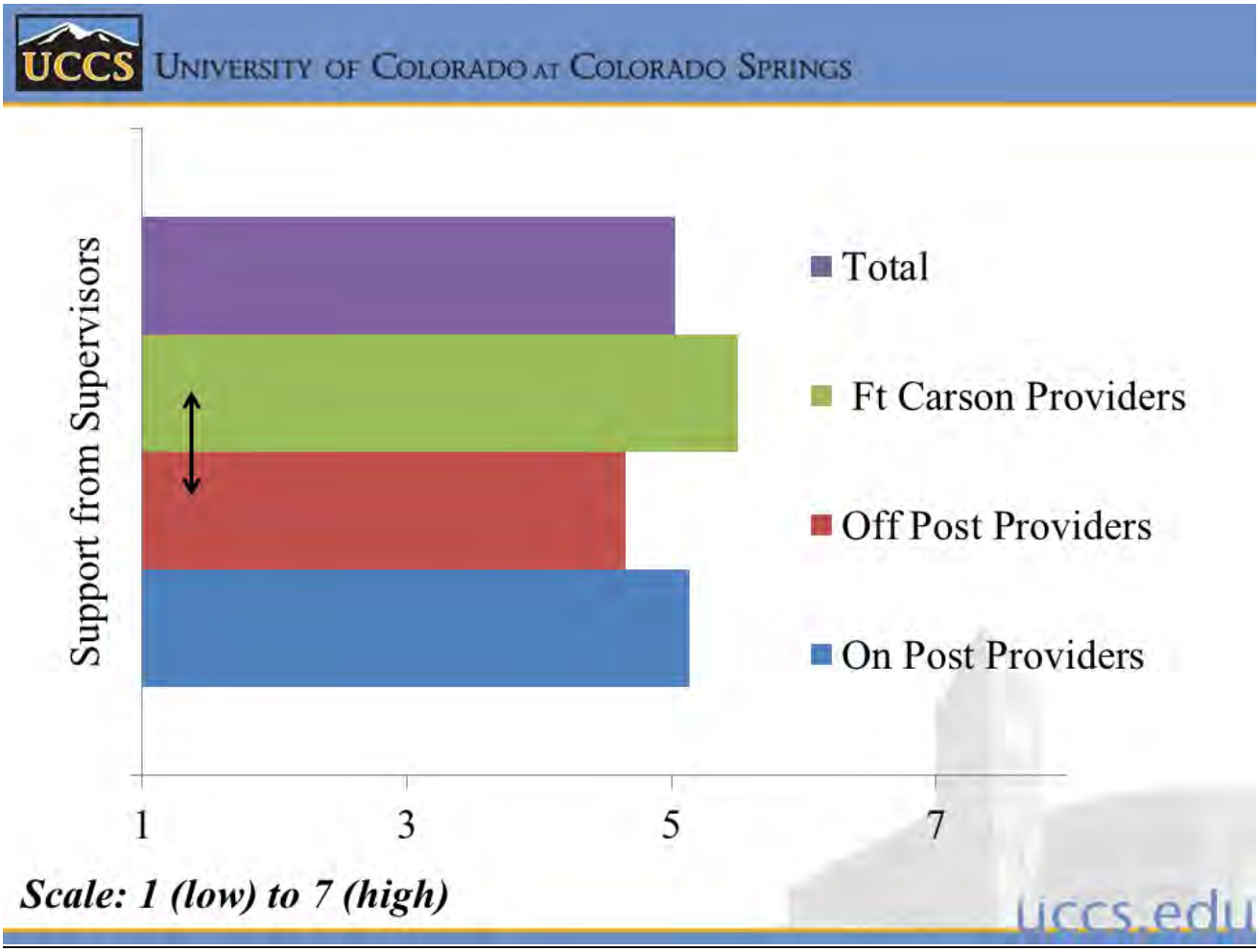
Quantitative Workload

- As measured by the Quantitative Workload Inventory (QWI)
- Part of the job demands measured in this study
- Assesses factors such as how quickly and intensely providers are asked to produce their work and how this affects the quality of their work


Quantitative Workload
Population
Total
Ft Carson Providers
Off Post Providers
On Post Providers
5
15
25
35

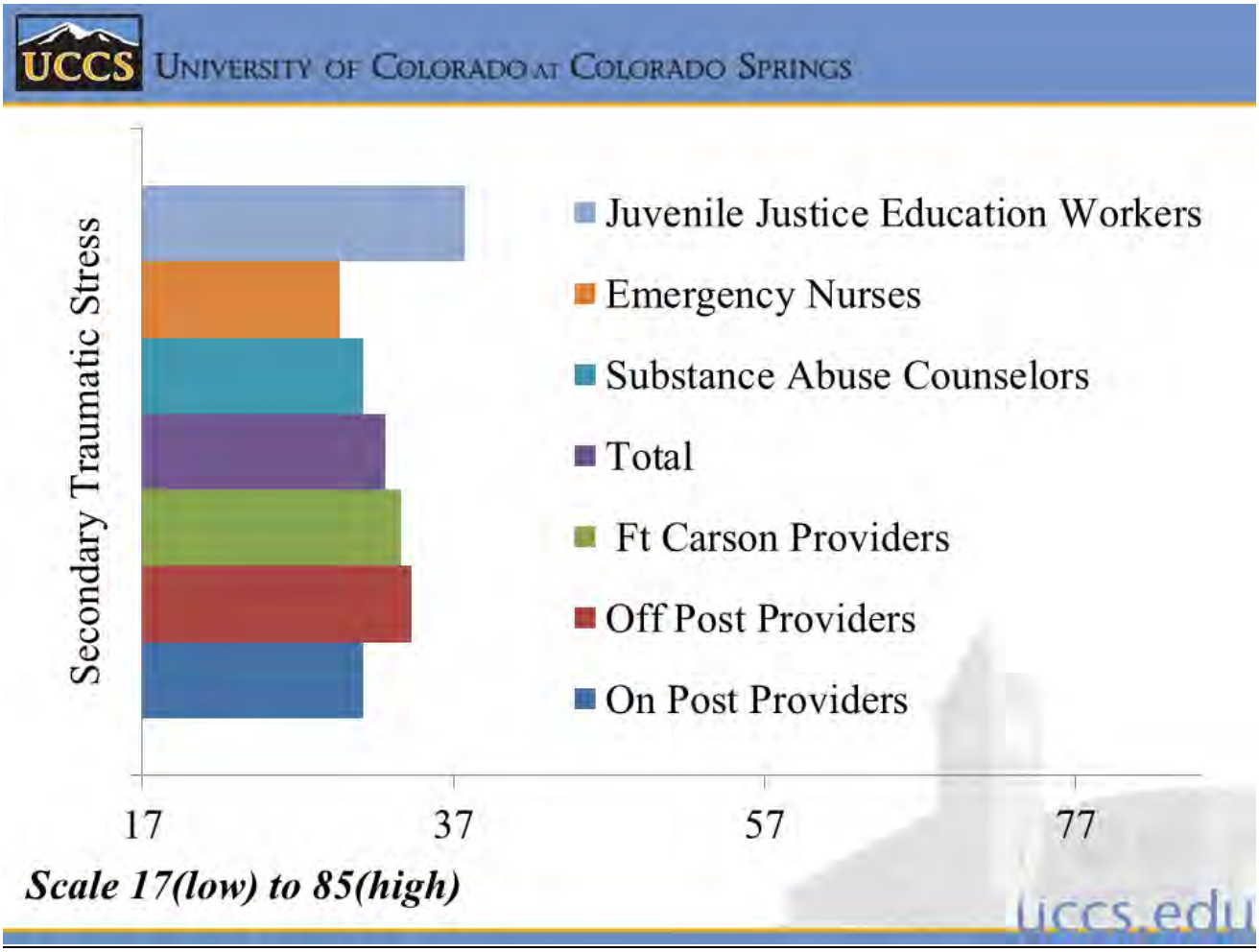
Support from Supervisors

- As measured by the QPS-Nordic scale
- Part of the job resources measured in this study
- Assesses support received from supervisors


UCCS
University of Colorado at Colorado Springs
Support from Supervisors
Total
Ft Carson Providers
Off Post Providers
On Post Providers
1
3
5
7
Scale: 1 (low) to 7 (high)
uccs.edu

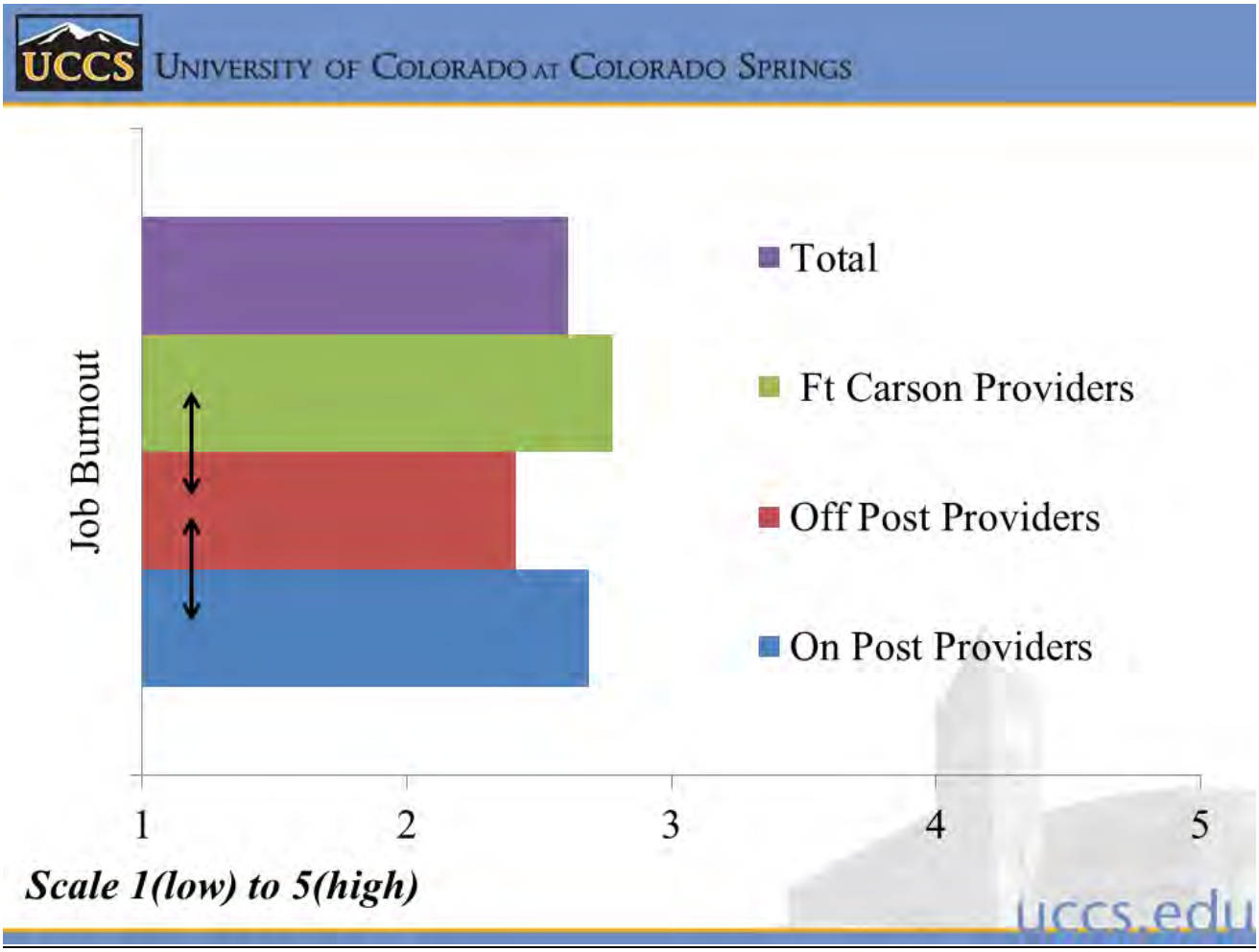
Secondary Traumatic Stress

- As measured by the Secondary Traumatic Stress Scale
- Part of the negative outcomes measured in this study
- Assesses intrusion, avoidance, and arousal symptoms resulting from indirect exposure to traumatic events


UCCS
University of Colorado at Colorado Springs
Secondary Traumatic Stress
Juvenile Justice Education Workers
Emergency Nurses
Substance Abuse Counselors
Total
Ft Carson Providers
Off Post Providers
On Post Providers
17
37
57
77
Scale 17(low) to 85(high)
uccs.edu

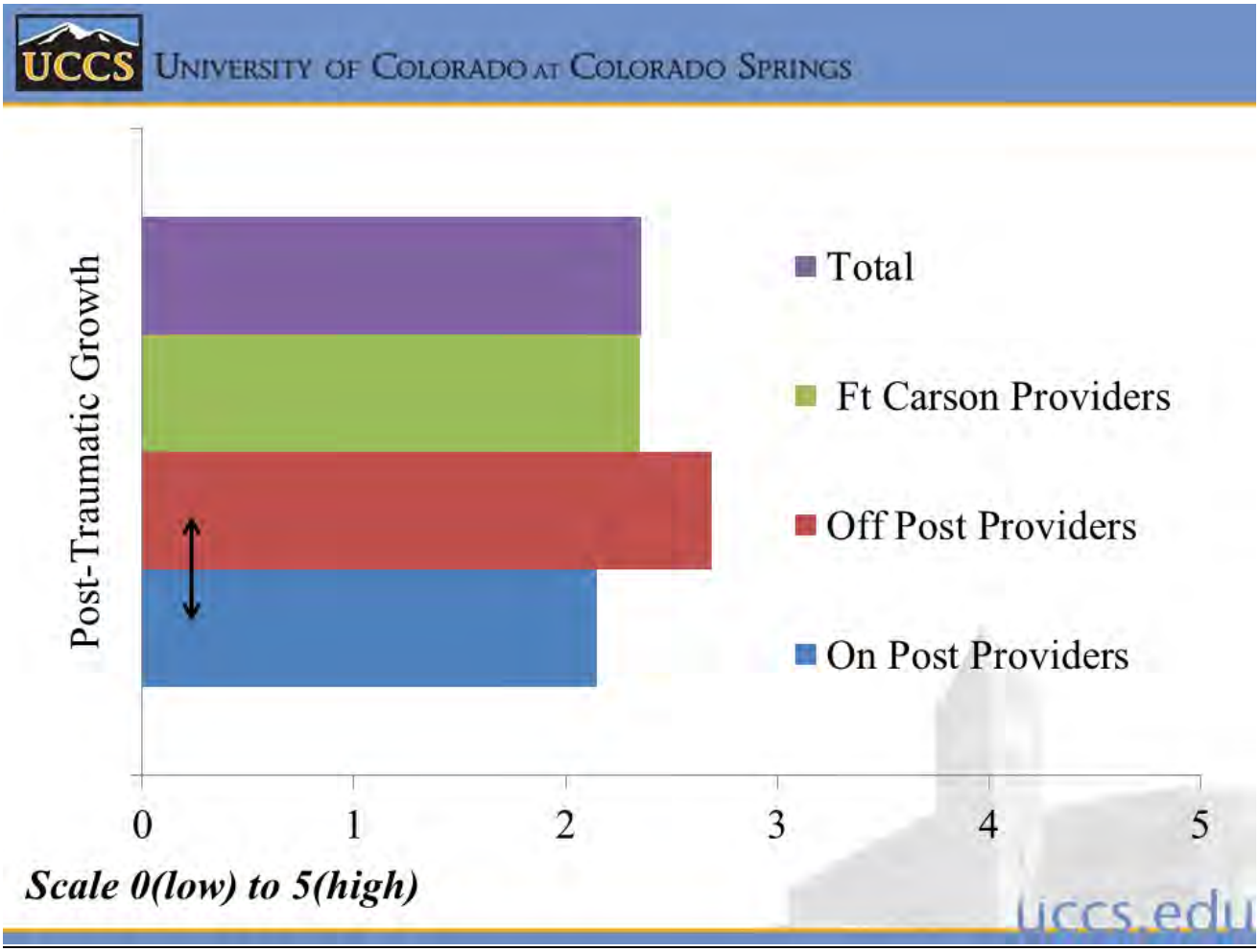
Job Burnout

- As measured by the Oldenburg Burnout Inventory (OLBI)
- Part of the negative outcomes measured in this study
- Assesses elements of job burnout such as emotional exhaustion and disengagement


UCCS
University of Colorado at Colorado Springs
Job Burnout
Total
Ft Carson Providers
Off Post Providers
On Post Providers
1
2
3
4
5
Scale 1(low) to 5(high)
uccs.edu

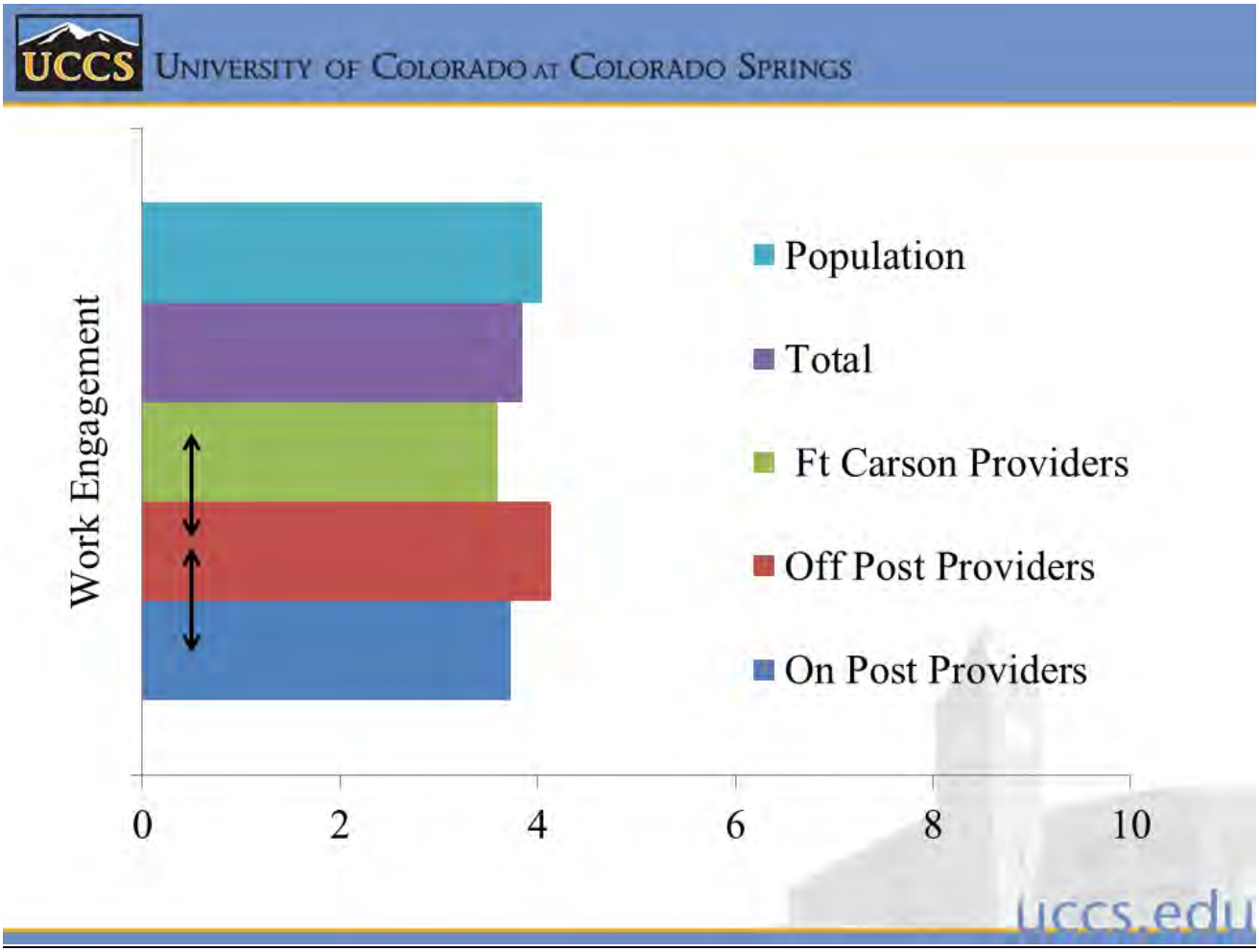
Posttraumatic Growth

- As measured by the Post-Traumatic Growth Inventory (PTGI-SF)
- Part of the positive outcomes measured in this study
- Assesses perceived changes in what is important in life, what one values about oneself, and spiritual/religious change


UCCS
University of Colorado at Colorado Springs
Post-Traumatic Growth
Total
Ft Carson Providers
Off Post Providers
On Post Providers
0
1
2
3
4
5
Scale 0(low) to 5(high)
uccs.edu

Work Engagement

- As measured by the Utrecht Work Engagement Scale (UWES)
- Part of the positive outcomes measured in this study
- Assesses work engagement factors such as vigor, dedication, and absorption


UCCS
University of Colorado at Colorado Springs
Work Engagement
Population
Total
Ft Carson Providers
Off Post Providers
On Post Providers
0
2
4
6
8
10
uccs.edu

Summary of Results

- Strength: Fort Carson interpersonal conflicts at work are much lower than the general population
- Strength: Support from supervisors is higher at Fort Carson than other groups
- Strength: Organizational commitment to address the issues
- Challenge: Organizational constraints and quantity of workload for on-post providers are higher than the general population
- Challenge: Job burnout is higher for on-post providers than off-post providers
- Challenge: There is room for improvement in post-traumatic growth, work engagement and secondary traumatic stress

UCCS University of Colorado at Colorado Springs

Needs Assessment Process	Approximate Start
Obtain the list of focus group representatives from Fort Carson leadership	March 2012
Develop and provide a briefing to the delegates selected by FC leadership about the project	March 2012
Conduct one (or more) focus group meetings with FC delegates	April 2012
Incorporate focus group feedback into the system design	April 2012
Modify or adjust system specification based on focus group feedback	May 2012
Finalize the support system design	May 2012
Develop Forms, Policies and Processes for direct clinical work	June 2012
Develop plan for content-related portions of the system	June 2012
Development of Internet portion of the support system	June 2012
Functionality testing of internet system	May 2013
Review internet system with focus group	June 2013
Make changes to internet system based on feedback	June 2013
Final testing of internet support system	July 2013
Identify participants in RCT	July 2013

uccs.edu

We need your help

Appendix XII

Triwest Briefing

UCCS University of Colorado at Colorado Springs

SupportNet Briefing

Triwest

April 2012

Valerie Anderson, PsyD
SupportNet Clinical Director

uccs.edu

UCCS University of Colorado at Colorado Springs

Objectives

Objective 1	Objective 2	Objective 3
July 2011 - June 2012	March 2012 - June 2013	June 2013 – June 2014
Develop online survey and sample behavioral health providers	Utilize modeling results to develop comprehensive secondary trauma and burnout prevention program.	Conduct randomized control trial to evaluate intervention effectiveness and program and process evaluations to evaluate SupportNet for possible replication.
Technical Milestone A defined mediation model of coping with secondary trauma and burnout.	**Technical Milestone** A replicable multifaceted program for secondary trauma and burnout	**Technical Milestone** Quantitative and qualitative evaluation of program effectiveness and possible replication alternatives.

uccs.edu

UCCS University of Colorado at Colorado Springs

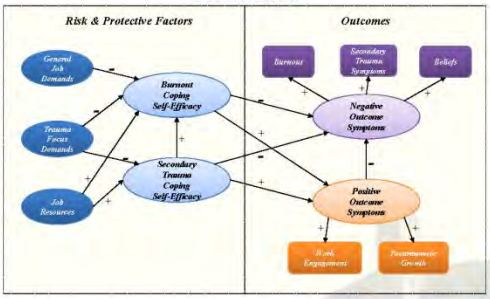
Team

- Charles (Chip) Benight, PhD – Principle Investigator (PI)
- Roman Cieslak, PhD – Director of Research
- Valerie Anderson, PsyD – Clinical Director
- Judith Bock, PsyD – Clinical Therapist
- Robert Durham, PhD – External Program Evaluator

uccs.edu

UCCS University of Colorado at Colorado Springs

The Model



uccs.edu

UCCS University of Colorado at Colorado Springs

SupportNet Study-This Analysis

Participants (usable data):		***235 (February 10, 2012)***
On Post Providers:	***119***	
Off Post Providers:	***78***	
Fort Carson Providers:	***38***	
Total (including duplicates & incomplete surveys):		***356***
On-Post:	***220***	
Off-Post	***136***	

uccs.edu

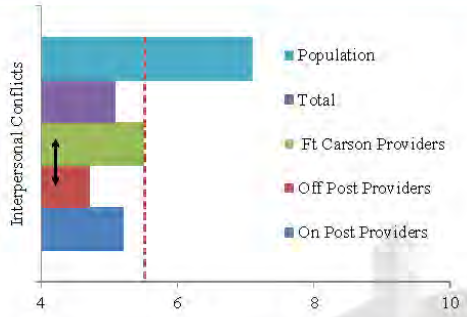
UCCS University of Colorado at Colorado Springs

Interpersonal Conflicts

- As measured by the Interpersonal Conflicts at Work Scale (ICAWS)
- Part of the job demands measured in this study
- Assesses the extent to which the provider experiences interpersonal conflict at work.

uccs.edu

UCCS University of Colorado at Colorado Springs



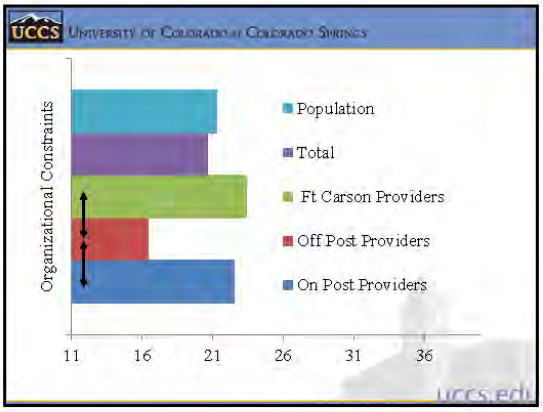
uccs.edu

UCCS University of Colorado at Colorado Springs

Organizational Constraints

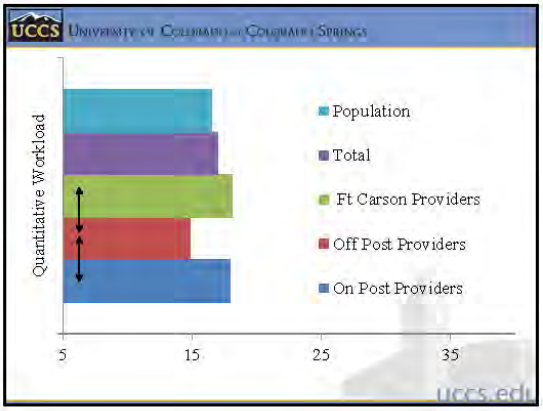
- As measured by the Organizational Constraints Scale (OCS)
- Part of the job demands measured in this study
- Assesses factors like equipment, supplies, interruptions, conflicting work demands, etc.

uccs.edu



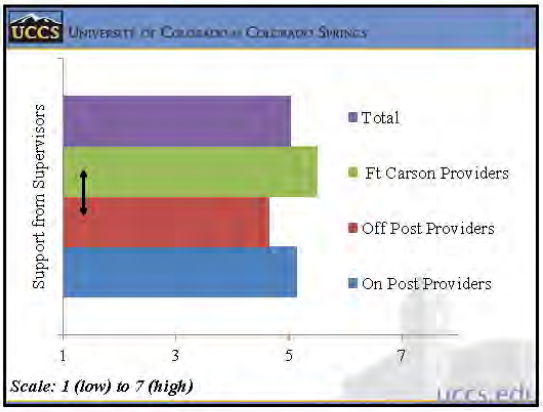
Quantitative Workload

- As measured by the Quantitative Workload Inventory (QWI)
- Part of the job demands measured in this study
- Assesses factors such as how quickly and intensely providers are asked to produce their work and how this affects the quality of their work



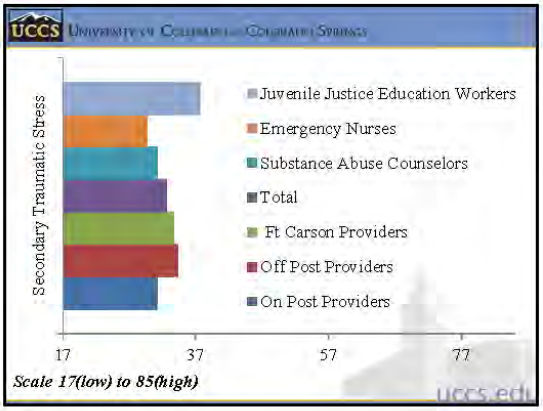
Support from Supervisors

- As measured by the QPS-Nordic scale
- Part of the job resources measured in this study
- Assesses support received from supervisors



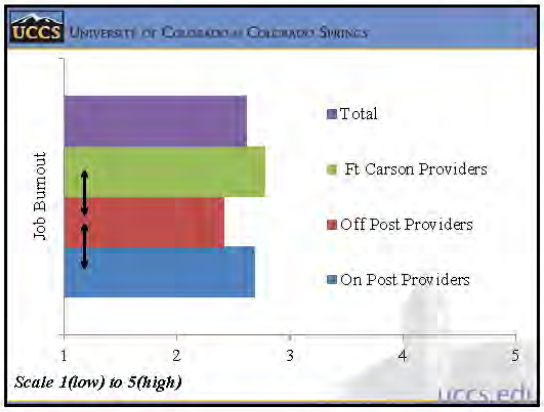
Secondary Traumatic Stress

- As measured by the Secondary Traumatic Stress Scale
- Part of the negative outcomes measured in this study
- Assesses intrusion, avoidance, and arousal symptoms resulting from indirect exposure to traumatic events



Job Burnout

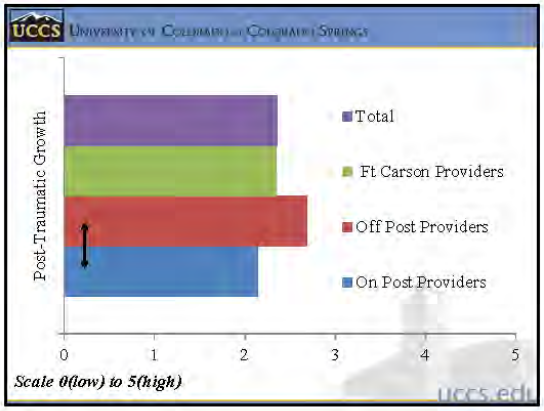
- As measured by the Oldenburg Burnout Inventory (OLBI)
- Part of the negative outcomes measured in this study
- Assesses elements of job burnout such as emotional exhaustion and disengagement



Posttraumatic Growth

- As measured by the Post-Traumatic Growth Inventory (PTGI-SF)
- Part of the positive outcomes measured in this study
- Assesses perceived changes in what is important in life, what one values about oneself, and spiritual/religious change

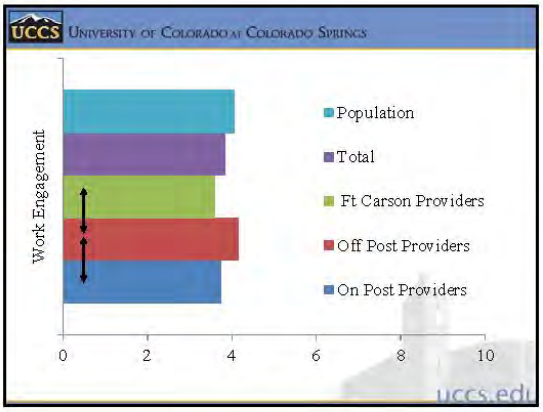
uccs.edu

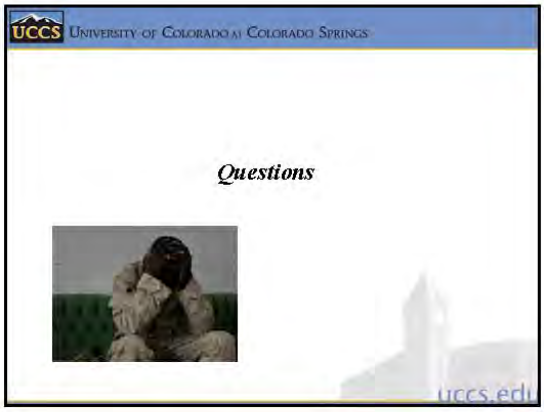


Work Engagement

- As measured by the Utrecht Work Engagement Scale (UWES)
- Part of the positive outcomes measured in this study
- Assesses work engagement factors such as vigor, dedication, and absorption

uccs.edu


UCCS University of Colorado at Colorado Springs
Work Engagement
Population
Total
Ft Carson Providers
Off Post Providers
On Post Providers
0
2
4
6
8
10
uccs.edu


UCCS University of Colorado at Colorado Springs
Questions
uccs.edu

Appendix XIII

Chaplains' Briefing

UCCS University of Colorado at Colorado Springs

SupportNet Program: Proposal to the Chaplains

Fort Carson Chaplains
June 11, 2012

SupportNet Team

uccs.edu

UCCS University of Colorado at Colorado Springs

SupportNet Team

- Charles (Chip) Benight, PhD – Principle Investigator (PI)
- Debbie Sagan, MPA – Program Manager
- Roman Cieslak, PhD – Director of Research
- Valerie Anderson, PsyD – Clinical Director
- Judith Bock, PsyD – Clinical Therapist
- Kotaro Shoji, PhD – Research Associate
- Robert Durham, PhD – External Program Evaluator

uccs.edu

UCCS University of Colorado at Colorado Springs

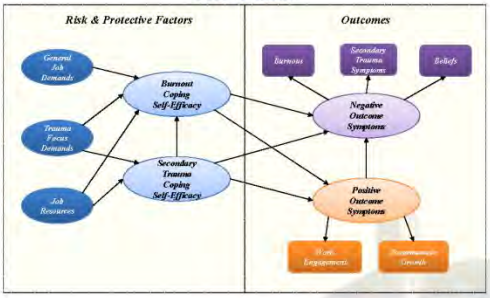
SupportNet Background

- The SupportNet program is sponsored by the US Army Medical Research and Materiel Command, Telemedicine & Advanced Technology Research Center (TATRC).
- It is designed to better understand issues related to secondary traumatic stress (STS) and burnout in military behavioral health providers.
- The goal is to develop a support system to help address the effects of STS and burnout in these providers.

uccs.edu

UCCS University of Colorado at Colorado Springs

The Model



uccs.edu

SupportNet Project Status

- Time 1 Data collection is complete.
- In Time 1 data , three different groups were compared: Fort Carson providers, Other On-Post providers, and Off-Post Providers.
- We are preparing to launch Time 2 in July.
- Concurrently, a support system model is being designed for Fort Carson providers.

uccs.edu

Summary of Results

Strengths:

- Fort Carson interpersonal conflicts at work are much lower than the general population.
- Support from supervisors is higher at Fort Carson than other groups.
- Organizational commitment to address the issues.

Challenges:

- Organizational constraints and quantity of workload for on-post providers are higher than the general population.
- Job burnout is higher for on-post providers than off-post providers.
- There is room for improvement in post-traumatic growth, work engagement and secondary traumatic stress.

uccs.edu

Proposed Support System

Internet-based support systems
Improving social support, psycho-education, and building self-efficacy

Newsletter/Research Advisory
Quarterly newsletter and monthly research advisories to address research on trauma treatments with links to articles or papers that address trauma treatment issues. The purpose of the advisories is to supplement ongoing training in evidence-based trauma treatment.

Trauma-Specific Training
Trauma-specific trainings that are provided by the military will be listed on the internet-based social support platform. In addition, the SupportNet team will provide periodic training seminars featuring renowned experts in the field.

Management/Supervisor "Dashboard"
The supervisory "dashboard" would be an on-line system to monitor the well-being of supervisees including self-care, case load, burnout and STS

Individual coaching
Individual or team coaching will be provided to help providers meet their personal goals for self-care and work/life balance available in-person, online or via Telehealth technologies.

Individual trauma treatment
Short-term, in-person and solution-focused treatment for individual trauma using evidence-based practices on an as-requested basis. Behavioral health issues outside of specific trauma treatment and urgent or emergent issues affecting safety referred to a network provider.

uccs.edu

Along the way we have learned. . .

- Based on a review of the literature, Chaplains have a higher than average risk for STS and burnout due to the nature of their work.
- There were no chaplains included in the present study.
- A comment has been made that the chaplains might be a little "crispy" (i.e., burned-out).

uccs.edu

Our Proposal

Short-term Objective:

- To launch a pilot study with Fort Carson Chaplains to gather more data about STS and burnout, using a model similar to SupportNet.

Longer-term Objectives:

- To use data from pilot study to apply for funding through grants or other agencies/organizations to conduct a larger study.
- To design and deliver an intervention to Chaplains (possibly using a Peer Support model).

What Your Participation Would Involve

For the Pilot Study, we would need your assistance in:

- Reviewing the design and measures.
- Navigating the Internal Review Board (IRB).
- Recruiting Chaplains on Fort Carson to participate.

For the Larger Study, we would need your assistance in:

- Identifying funding opportunities.
- Advocating for the need of such a study and intervention for the Chaplains with a letter of support.

Next Steps…

Appendix IV

Ft. Carson Focus Group Briefing

SupportNet Briefing

Fort Carson SupportNet Focus Group

June14, 2012

Valerie Anderson, PsyD
SupportNet Clinical Director
Judith Bock, PsyD
SupportNet Program Clinician & Advisor

uccs.edu

Purpose and Agenda

- Introductions
- Introduction to the SupportNet Program
- Summarize the results from the first survey
- Discuss the role of the Focus Group
- Set the schedule and agenda for future meetings

uccs.edu

Background & Objectives

- The SupportNet program is sponsored by the US Army Medical Research and Materiel Command, Telemedicine & Advanced Technology Research Center (TATRC).
- The project was started in June of 2011 and runs until 2014.
- It is designed to better understand issues related to secondary traumatic stress (STS) and burnout in military behavioral health providers.
- The goal is to develop a support system to help address the effects of STS and burnout in these providers.

uccs.edu

Logistics

Methodology:

- It is a longitudinal study with two data collection times separated by six months
- Same participants are used both times
- Very similar data collected each time

Project Timeline:

- Time 1 Data collection completed in March.
- We are preparing to launch Time 2 survey in July.
- Concurrently, a support system model is being designed for Fort Carson providers.

uccs.edu

UCCS SupportNet Team

- Charles (Chip) Benight, PhD – Principle Investigator (PI)
- Debbie Sagan, MPA – Program Manager
- Roman Cieslak, PhD – Director of Research
- Valerie Anderson, PsyD – Clinical Director
- Judith Bock, PsyD – Clinician and Advisor
- Kotaro Shoji, PhD – Research Associate
- Robert Durham, PhD – External Program Evaluator

uccs.edu

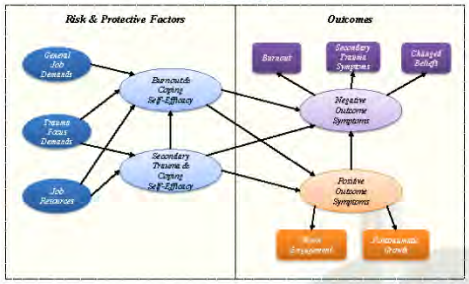
Success Team – The Focus Group

- Fort Carson Behavioral Health Providers SupportNet Focus Group
- Valerie Anderson, PsyD – Clinical Director
- Judith Bock, PsyD – Clinician and Advisor
- Carrie Yeager – System Developer

uccs.edu

UCCS University of Colorado at Colorado Springs

The Model



uccs.edu

UCCS University of Colorado at Colorado Springs

Preliminary (Time 1) Measures

- Job Demands
  - Interpersonal Conflicts at Work
  - Organizational Constraints
  - Quantitative Workload
- Job Resources
  - Supervisor Support
- Secondary Traumatic Stress
- Job Burnout
- Positive Outcomes
  - Work Engagement
  - Posttraumatic Growth

uccs.edu

UCCS University of Colorado at Colorado Springs

Results from Time 1

Time 1 data analysis was completed comparing three different groups:

- Fort Carson providers
- Other On-Post providers (excluding Fort Carson)
- Off-Post/Community Providers

Total Participants:	261
On Post Providers:	121
Off Post Providers:	81
Fort Carson Providers:	59

uccs.edu

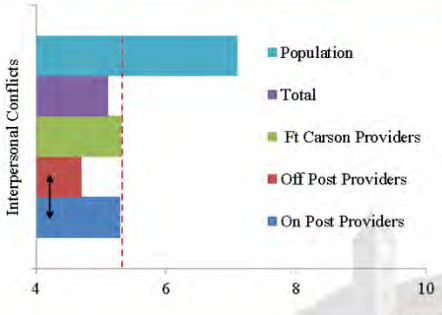
UCCS University of Colorado at Colorado Springs

Interpersonal Conflicts

- As measured by the Interpersonal Conflicts at Work Scale (ICAWS)
- Part of the job demands measured in this study
- Assesses the extent to which the provider experiences interpersonal conflict at work.

uccs.edu

UCCS University of Colorado at Colorado Springs



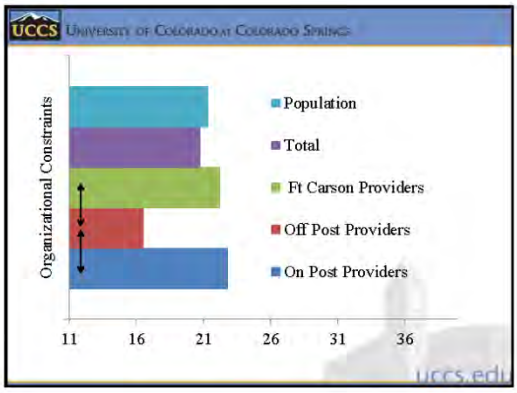
uccs.edu

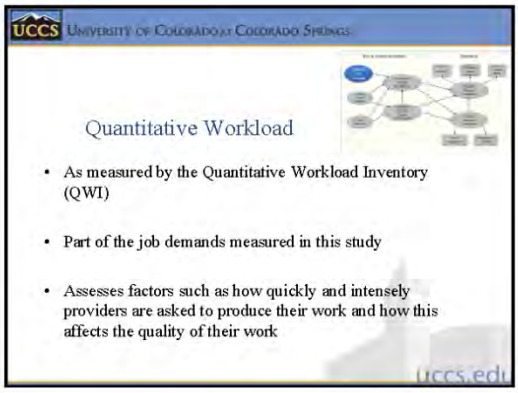
UCCS University of Colorado at Colorado Springs

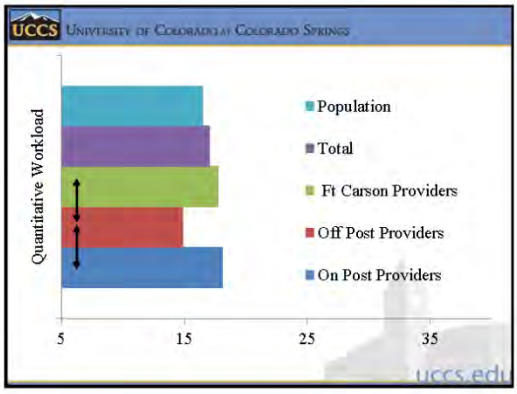
Organizational Constraints

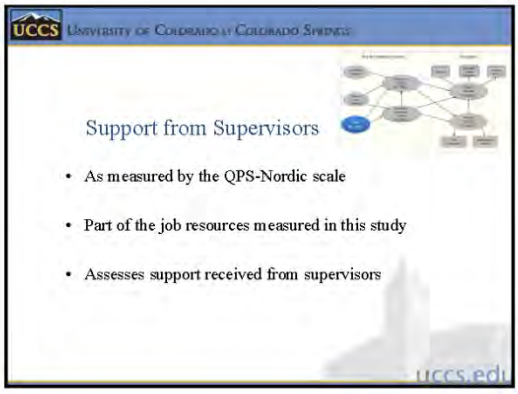
- As measured by the Organizational Constraints Scale (OCS)
- Part of the job demands measured in this study
- Assesses factors like equipment, supplies, interruptions, conflicting work demands, etc.

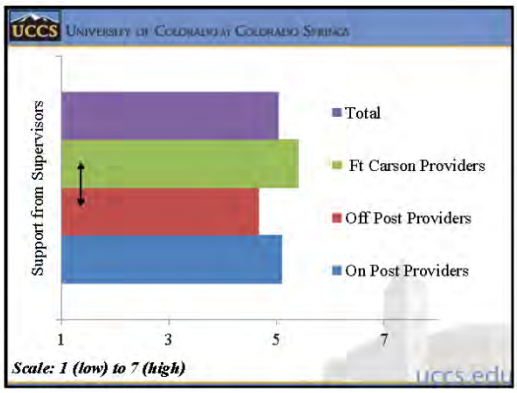
uccs.edu

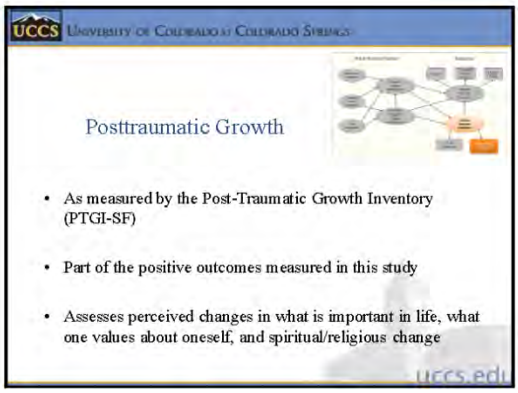

UCCS University of Colorado at Colorado Springs
Organizational Constraints
Population
Total
Ft Carson Providers
Off Post Providers
On Post Providers
11
16
21
26
31
36
uccs.edu

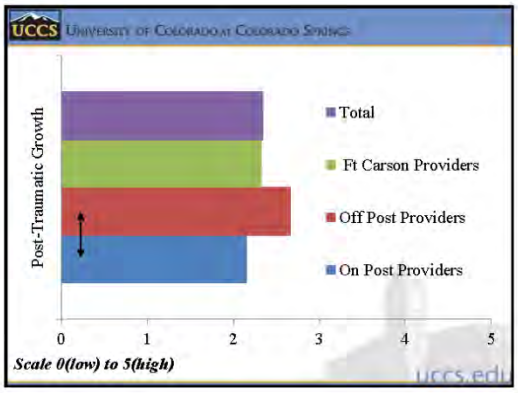

UCCS University of Colorado at Colorado Springs
Quantitative Workload
• As measured by the Quantitative Workload Inventory (QWI)
• Part of the job demands measured in this study
• Assesses factors such as how quickly and intensely providers are asked to produce their work and how this affects the quality of their work
uccs.edu

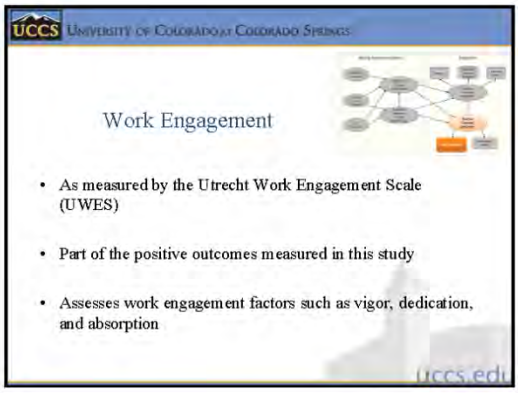

UCCS University of Colorado at Colorado Springs
Quantitative Workload
Population
Total
Ft Carson Providers
Off Post Providers
On Post Providers
5
15
25
35
uccs.edu

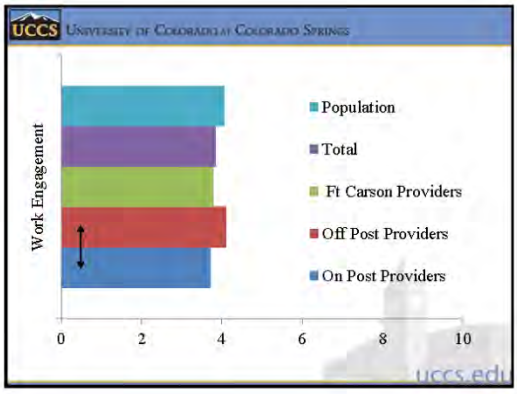

UCCS University of Colorado at Colorado Springs
Support from Supervisors
• As measured by the QPS-Nordic scale
• Part of the job resources measured in this study
• Assesses support received from supervisors
uccs.edu

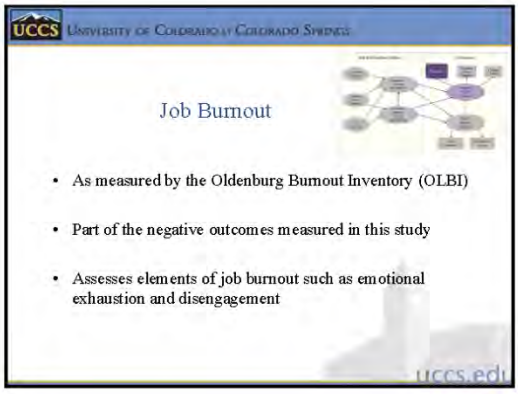

UCCS University of Colorado at Colorado Springs
Support from Supervisors
Total
Ft Carson Providers
Off Post Providers
On Post Providers
1
3
5
7
Scale: 1 (low) to 7 (high)
uccs.edu

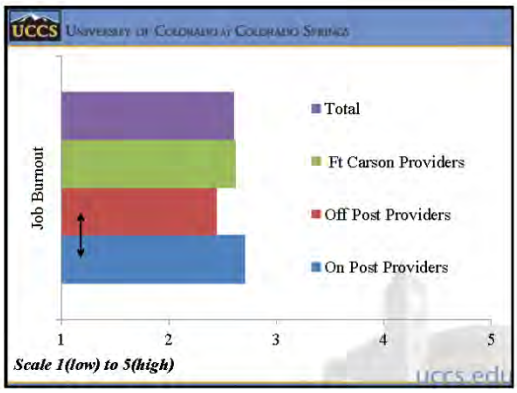

UCCS University of Colorado at Colorado Springs
Posttraumatic Growth
• As measured by the Post-Traumatic Growth Inventory (PTGI-SF)
• Part of the positive outcomes measured in this study
• Assesses perceived changes in what is important in life, what one values about oneself, and spiritual/religious change
uccs.edu

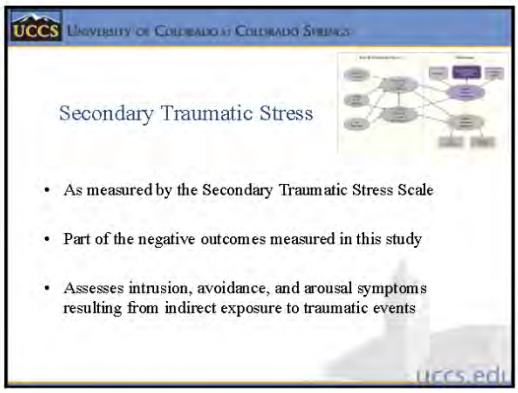

UCCS University of Colorado at Colorado Springs
Post-Traumatic Growth
Total
Ft Carson Providers
Off Post Providers
On Post Providers
0
1
2
3
4
5
Scale 0(low) to 5(high)
uccs.edu

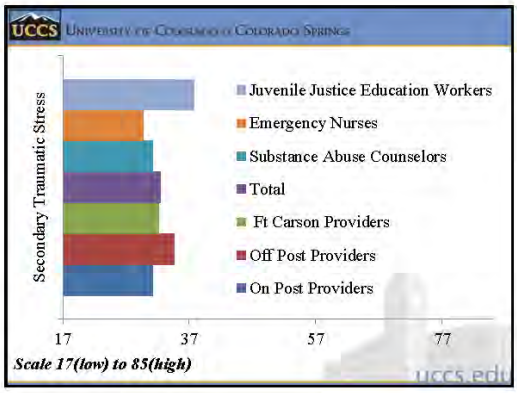

UCCS University of Colorado at Colorado Springs
Work Engagement
• As measured by the Utrecht Work Engagement Scale (UWES)
• Part of the positive outcomes measured in this study
• Assesses work engagement factors such as vigor, dedication, and absorption
uccs.edu


UCCS University of Colorado at Colorado Springs
Work Engagement
Population
Total
Ft Carson Providers
Off Post Providers
On Post Providers
0
2
4
6
8
10
uccs.edu


UCCS University of Colorado at Colorado Springs
Job Burnout
• As measured by the Oldenburg Burnout Inventory (OLBI)
• Part of the negative outcomes measured in this study
• Assesses elements of job burnout such as emotional exhaustion and disengagement
uccs.edu


UCCS University of Colorado at Colorado Springs
Job Burnout
Total
Ft Carson Providers
Off Post Providers
On Post Providers
1
2
3
4
5
Scale 1(low) to 5(high)
uccs.edu


UCCS University of Colorado at Colorado Springs
Secondary Traumatic Stress
• As measured by the Secondary Traumatic Stress Scale
• Part of the negative outcomes measured in this study
• Assesses intrusion, avoidance, and arousal symptoms resulting from indirect exposure to traumatic events
uccs.edu



Secondary Traumatic Stress Prevalence Rates

Group	Met No Criteria (%)	Met Intrusion Criterion (%)	Met Avoidance Criterion (%)	Met Arousal Criterion (%)	Met All Criteria (%)
On Post	15.7	43.1	22.9	27.5	13.7
Off Post	27.8	56.4	25.6	29.3	18.0
Fort Carson	16.2	45.6	23.5	32.4	16.2

Criterion B: at least one intrusion item endorsed
Criterion C: at least three avoidance items endorsed
Criterion D: at least two arousal items endorsed

Summary of Time 1 Results

Strengths:

- Fort Carson interpersonal conflicts at work are much lower than the general population.
- Support from supervisors is higher at Fort Carson than other groups.
- Organizational commitment to address the issues.

Challenges:

- Organizational constraints and quantity of workload for on-post providers are higher than the general population.
- Job burnout is higher for on-post providers than off-post providers.
- There is room for improvement in post-traumatic growth, work engagement and secondary traumatic stress.

What Now?

- Commitment to monthly meetings.
- Set the schedule for the next 3 months.
- Focus Group evaluates a support system design (at the next meeting).
- Focus Group provides feedback on priorities of that design.
- Focus Group reviews the design of on-line portions of the support system design.

We need your help

Proposed Schedule of Focus Group Meetings
Thursday, July 12 at 09:30
Thursday, August 16 at 09:30
Thursday, September 20 at 09:30

SUPPORTING DATA:

Exhibit A1: Theoretical Model in the SupportNet Study

Exhibit A2: Summary of meta-analysis on the relationship between secondary trauma/compassion fatigue and job burnout

Exhibit B1: Poster presented at the American Telemedicine Association Conference

Exhibit 1:

Theoretical Model in the SupportNet Study

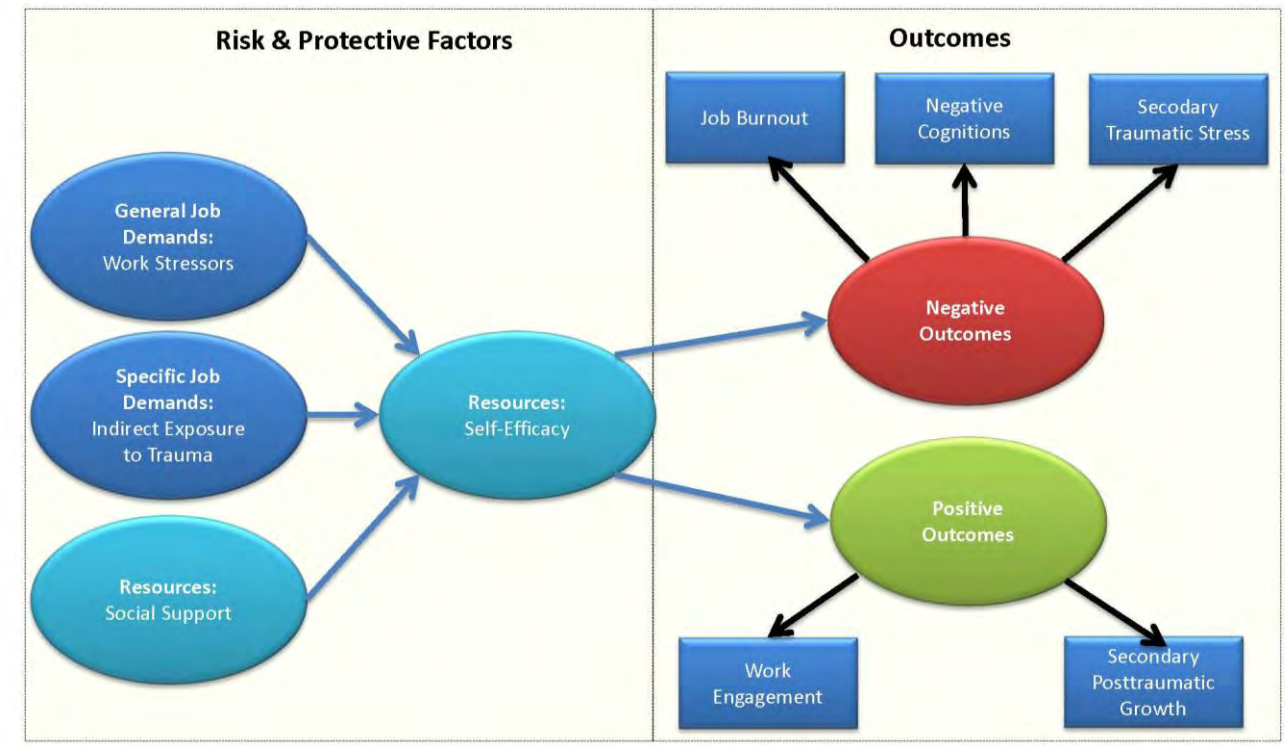


Exhibit 2

Summary of meta-analysis on the relationship between secondary trauma/ compassion fatigue and job burnout.

	r	*n*	*t*
Overall	.720	41	-
Moderators			
Measurements for Secondary Trauma/ Compassion Fatigue			
Compassion Fatigue	.749	29	9.503 *
Secondary Trauma	.643	12	
Measurements for Job Burnout			
ProQOL	.754	27	10.972 *
Other	.643	14	
Country			
North America	.685	22	6.845 *
Other	.756	19	
Occupation			
Medical Health Care Provider	.714	16	1.043
Behavioral, Social, Mental Health Care Provider	.725	25	

Note: * $p < .001$. *n* = The number of studies. The asterisk indicates that the effect sizes are significantly different between two levels of the moderrator.

References for studies used in the meta-analysis

Adams, K. B., Matto, H. C., & Harrington, D. (2001). The Traumatic Stress Institute Belief Scale as a measure of vicarious trauma in a national sample of clinical social workers. *Families in Society: Journal of Contemporary Human Services*, *82*, 363–371.

Adams, R., Boscarino, J., & Figley, C. (2006). Compassion fatigue and psychological distress among social workers: A validation study. *American Journal of Orthopsychiatry*, *76*, 103–108. doi:10.1037/0002-9432.76.1.103

Alkema, K., Linton, J. M., & Davies, R. (2008). A study of the relationship between self-care, compassion satisfaction, compassion fatigue, and burnout among hospice professionals. *Journal of Social Work in End-of-Life and Palliative Care*, *4*, 101–119.

Argentero, P., & Setti, I. (2011). Engagement and vicarious traumatization in rescue workers. *International Archives of Occupational and Environmental Health*, *84*, 67–75. doi:10.1007/s00420-010-0601-8

Backholm, K., Björkqvist, K. (2010). The effects of exposure to crisis on well-being of journalists: A study of crisis-related factors predicting psychological health in a sample of Finnish journalists. *Media, War and Conflict*, *3*, 138–151.

Ben-Porat, A. (2011). The contribution of training and supervision to perceived role competence, secondary traumatization, and burnout among domestic violence therapists. *Clinical Supervisor*, *30*, 95. doi:10.1080/07325223.2011.566089

Berger, R., & Gelkopf, M. (2011). An intervention for reducing secondary traumatization and improving professional self-efficacy in well baby clinic nurses following war and terror: A random control group trial. *International Journal of Nursing Studies*, *48*, 601–610. doi:10.1016/j.ijnurstu.2010.09.007

Birck, A. (2001). Secondary traumatization and burnout in professionals working with torture survivors. *Traumatology*, *7*, 96–101.

Burtson, P. L., & Stichler, J. F. (2010). Nursing work environment and nurse caring: relationship among motivational factors. *Journal of Advanced Nursing*, *66*, 1819–1831. doi:10.1111/j.1365-2648.2010.05336.x

Carmel, M. J. S., & Friedlander, M. L. (2009). The relation of secondary traumatization to therapists' perceptions of the working alliance with clients who commit sexual abuse. *Journal of Counseling Psychology*, *56*, 461–467. doi:10.1037/a0015422

Chang, K., & Taormina, R. J. (2011). Reduced secondary trauma among Chinese earthquake rescuers: A test of correlates and life indicators. *Journal of Loss and Trauma*, *16*, 542–562. doi:10.1080/15325024.2011.600682

Circenis, K., & Millere, I. (2011). Compassion fatigue, burnout and contributory factors among nurses in Latvia. *Procedia - Social and Behavioral Sciences*, *30*, 2042–2046. doi:10.1016/j.sbspro.2011.10.395

Cohen, M., Gagin, R., & Peled-Avram, M. (2006). Multiple terrorist attacks: Compassion fatigue in Israeli social workers. *Traumatology*, *12*, 293–301. doi:10.1177/1534765606297820

Collins, S., & Long, A. (2003). Too tired to care? The psychological effects of working with trauma. *Journal of Psychiatric and Mental Health Nursing*, *10*, 17–27.

Conrad, D., & Kellar-Guenther, Y. (2006). Compassion fatigue, burnout, and compassion satisfaction among Colorado child protection workers. *Child Abuse and Neglect*, *30*, 1071–1080. doi:10.1016/j.chiabu.2006.03.009

Craig, C. D., & Sprang, G. (2010). Compassion satisfaction, compassion fatigue, and burnout in a national sample of trauma treatment therapists. *Anxiety Stress and Coping*, *23*(3), 319–339. doi:10.1080/10615800903085818

Devilly, G.J., Wright, R., Varker, T. (2009). Vicarious trauma, secondary traumatic stress or simply burnout? Effect of trauma therapy on mental health professionals. *Australian and New Zealand Journal of Psychiatry*, *43*, 373–385.

Eastwood, C. D., & Ecklund, K. (2008). Compassion Fatigue Risk and Self-Care Practices among Residential Treatment Center Childcare Workers. *Residential Treatment for Children and Youth*, *25*, 103–122.

Flannelly, K.J., Roberts, S.B., Weaver, A. J. (2005). Correlates of compassion fatigue and burnout in chaplains and other clergy who responded to the September 11th attacks in New York City. *Journal of Pastoral Care and Counseling*, *59*, 213–224.

Galek, K., Flannelly, K.J., Greene, P.B., Kudler, T. (2011). Burnout, secondary traumatic stress, and social support. *Pastoral Psychology*, *60*, 633–649.

Gibbons, S., Murphy, D., & Joseph, S. (2011). Countertransference and positive growth in social workers. *Journal of Social Work Practice*, *25*, 17–30. doi:10.1080/02650530903579246

Halpern, J., Maunder, R., Schwartz, B., & Gurevich, M. (2011). Identifying risk of emotional sequelae after critical incidents. *Emergency Medicine Journal*, *28*, 51–56.

Hatcher, R., & Noakes, S. (2010). Working with sex offenders: The impact on Australian treatment providers. *Psychology Crime and Law*, *16*, 145–167. doi:10.1080/10683160802622030

Kadambi, M. A., & Truscott, D. (2004). Vicarious trauma among therapists working with sexual violence, cancer and general practice. *Canadian Journal of Counseling*, *38*, 260–276.

Killian, K. D. (2008). Helping till it hurts? A multimethod study of compassion fatigue, burnout, and self-care in clinicians working with trauma survivors. *Traumatology*, *14*, 32–44. doi:10.1177/1534765608319083

Kraus, V. I. (2005). Relationship between self-care and compassion satisfaction, compassion fatigue, and burnout among mental health professionals working with adolescent sex offenders. *Counseling and Clinical Psychology Journal*, *2*, 81–88.

Lauvrud, C., Nonstad, K., & Palmstierna, T. (2009). Occurrence of post traumatic stress symptoms and their relationship to professional quality of life (ProQoL) in nursing staff at a forensic psychiatric

security unit: A cross-sectional study. *Health and Quality of Life Outcomes*, *7*, 1–6. doi:10.1186/1477-7525-7-31

Lawson, G., & Myers, J. E. (2011). Wellness, professional quality of life, and career-sustaining behaviors: What keeps us well? *Journal of Counseling and Development*, *89*, 163–171.

Meadors, P., Lamson, A., Swanson, M., White, M., & Sira, N. (2009). Secondary traumatization in pediatric health care providers: Compassion fatigue, burnout, and secondary traumatic stress. *Omega-Journal of Death and Dying*, *60*, 103–128. doi:10.2190/OM.60.2.a

Mitani, S., Fujita, M., Nakata, K., & Shirakawa, T. (2006). Impact of post-traumatic stress disorder and job-related stress on burnout: A study of fire service workers. *Journal of Emergency Medicine*, *31*, 7–11. doi:10.1016/j.jemermed.2005.08.008

Musa, S. A., & Hamid, A. A. R. M. (2008). Psychological problems among aid workers operating in Darfur. *Social Behavior and Personality: An International Journal*, *36*, 407–416. doi:10.2224/sbp.2008.36.3.407

Perez, L. M., Jones, J., Englert, D. R., & Sachau, D. (2010). Secondary traumatic stress and burnout among law enforcement investigators exposed to disturbing media images. *Journal of Police and Criminal Psychology*, *25*, 113–124. doi:10.1007/s11896-010-9066-7

Perron, B. E., & Hiltz, B. S. (2006). Burnout and secondary trauma among forensic interviewers of abused children. *Child and Adolescent Social Work Journal*, *23*, 216–234.

Pietrantoni, L., Prati, G. (2008). Resilience among first responders. *African Health Sciences*, *8 Suppl 1*, S14–20.

Potter, P., Deshields, T., Divanbeigi, J., Berger, J., Cipriano, D., Norris, L., & Olsen, S. (2010). Compassion fatigue and burnout: Prevalence among oncology nurses. *Clinical Journal of Oncology Nursing*, *14*, 565–565. doi:10.1188/10.CJON.E56-E62

Robins, P., Meltzer, L., & Zelikovsky, N. (2009). The experience of secondary traumatic stress upon care providers working within a children's hospital. *Journal of Pediatric Nursing*, *24*, 270–279. doi:10.1016/j.pedn.2008.03.007

Schutt, J. M. L., & Marotta, S. A. (2011). Personal and environmental predictors of posttraumatic stress in emergency management professionals. *Psychological Trauma-Theory Research Practice and Policy*, *3*, 8–15.

Severn, M., Searchfield, G., & Huggard, P. (2012). Occupational stress amongst audiologists: Compassion satisfaction, compassion fatigue, and burnout. *International Journal of Audiology*, *51*, 3–9. doi:10.3109/14992027.2011.602366

Simon, C. E., Pryce, J. G., Roff, L. L., & Klemmack, D. (2005). Secondary traumatic stress and oncology social work: Protecting compassion from fatigue and compromising the worker's worldview. *Journal of Psychosocial Oncology*, *23*, 1–14. doi:10.1300/J077v23n04_01

van der Ploeg, E., Dorresteijn, S. M., & Kleber, R. J. (2003). Critical incidents and chronic stressors at work: Their impact on forensic doctors. *Journal of Occupational Health Psychology*, *8*, 157–166.

van der Ploeg, E., & Kleber, R. J. (2003). Acute and chronic job stressors among ambulance personnel: Predictors of health symptoms. *Occupational and Environmental Medicine*, *60 (SUPPL. 1)*, i40–i46.

Exhibit 3

University of Colorado Colorado Springs

SupportNet: A Comprehensive Support System for Secondary Trauma and Burnout

Valerie J. Anderson, Charles C. Benight, Judith P. Bock, Roman Cieslak, Debbie Sagen, Trauma, Health, and Hazards Center, University of Colorado at Colorado Springs and Ashley Fisher, TATRC, USAMRMC

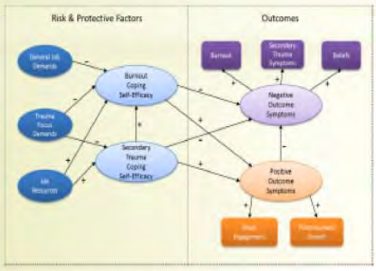
Project Summary

A 3-year research and clinical program to assess, treat, and prevent secondary traumatic stress and burnout in military behavioral health providers working with combat-related trauma.

Project Goal

Managing the effects of General Job Demands and Trauma Focus Demands through Individual and Job Resources

Theoretical Model



Support System Design

Internet-based interventions
Improving social support, psycho-education, and building self-efficacy

Newsletter/Research advisory
Quarterly newsletter and monthly research advisories to address research on trauma treatments with links to articles or papers that address trauma treatment issues. The purpose of the advisories is to supplement ongoing training in evidence-based trauma treatment.

Trauma-specific training
Trauma-specific trainings that are provided by the military will be listed on the internet-based social support platform. SupportNet will provide periodic seminars featuring renowned experts in the field.

Management/Supervisor "dashboard"
The supervisory "dashboard" would be an on-line system to monitor the well-being of supervisees including self-care, case load, burnout and STS

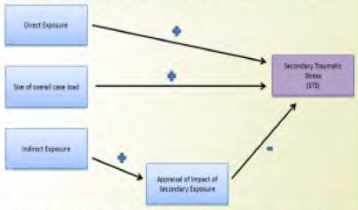
Individual coaching
Individual or team coaching will be provided to help providers meet their personal goals for self-care and work/life balance available in-person, online or via Telehealth technologies.

Individual trauma treatment
Short-term, in-person and solution-focused treatment for individual trauma using evidence-based practices on an as-requested basis. Behavioral health issues outside of specific trauma treatment and urgent or emergent issues affecting safety referred to a network provider.

Internet-Based Applications

Preliminary Results

Results from Time 1 Survey show direct and indirect influences on STS.



This research and development project was conducted by the Trauma Health & Hazards Center, University of Colorado, Colorado Springs and is made possible by a research grant that was awarded and administered by the U.S. Army Medical Research & Materiel Command (USAMRMC) and the Telemedicine & Advanced Technology Research Center (TATRC) at Fort Detrick, MD under Contract Number W81XWH-11-2-0153