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PRINCIPAL INVESTIGATOR:
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14. ABSTRACT

The third year of the MSRC included funding ten new research projects for a total of twenty MSRC funded studies, supporting four postdoctoral pilot grants, and providing three $2000 dissertation awards to expert and future leaders in the field of military suicide research. The Denver staff continues to collaborate with the Florida State University site and seek guidance from its senior advisors, the Military External Advisory Board, and the Independent Scientific Peer Review Program. The MSRC is on track with its goals and is financially mindful in leveraging funds and reviewing its infrastructure to increase the funds available to support additional research. The MSRC also submitted a grant application to extend through years 6-10, establishing new research priorities and extending its scope.

15. SUBJECT TERMS

- Funding research projects
- Establishing pre-doctoral and postdoctoral training
- Leveraging funds
- Collaboration with Cores

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Annual Report to Department of Defense

(Fiscal Year 2012: September 28, 2012-September 27, 2013)

"Military Suicide Research Consortium"

DoD Award: W81XWH-10-2-0178

Table of Contents:

Introduction:

The Military Suicide Research Consortium's ultimate goal is suicide prevention in the military, through research, including on primary, secondary, and tertiary interventions, as well as through information management/scientific communications (cataloguing and disseminating knowledge on military suicide). Specifically, suicidal personnel compromise force readiness, place a strain on the healthcare resources of the military, impact unit morale, and take a large emotional toll on the involved friends, family, and commanders. There is significant stigma associated with being suicidal, which limits the extent to which at-risk individuals are willing to seek help. Moreover, decision-makers need a go-to resource for accurate, efficient, and fast answers regarding suicidal behavior as policies and programs are developed. The Military Suicide Research Consortium is designed to facilitate information management/scientific communications for the DoD and to maximize research efforts at understanding and improving suicide risk screening and assessment, interventions, and population-level prevention programs, as well as to address other pressing research needs (e.g., basic research including neuroscientific and genetic approaches). Programs and projects conducted by the Consortium ensure that information management/scientific communications occur seamlessly, and that screening and assessment, intervention, and prevention efforts are based on the best possible scientific evidence, specific to military personnel. Further, the Consortium contributes to the goal of the research program by expanding our knowledge, understanding, and capacity to prevent, treat, and enhance the quality of life of persons in military communities and the general public who are affected by suicide-related problems.

The Consortium's overall mission can be summarized as follows; each function is developed with the goal of clear military relevance:

1. Produce new scientific knowledge about suicidal behavior in the military that will improve mental health outcomes for our men and women in uniform.

2. Use high quality research methods and analyses to address problems in policy and practice that will have a direct impact on suicide-related and other mental health outcomes for military personnel.

3. Disseminate Consortium knowledge, information, and findings through a variety of methods appropriate for decision makers, practitioners, and others who are accountable for ensuring the mental health of military personnel. This includes a rapid response function so that queries from decision makers and others to the Consortium are answered with speed and efficiency. Technical assistance and support for decision makers and others is an integral aspect of this Consortium function. This aspect of the Consortium warehouses knowledge about suicidal behavior in general (e.g., from civilian and international sources as well as from military sources), so that military issues can be informed in a comprehensive manner.

4. Train future leaders in military suicide research through experience within a multi-disciplinary setting for Ph.D. students and postdoctoral scholars interested in research questions on military suicide of both a basic and applied nature.

The inter-relations and flow of information between the Cores and the research program is an important component of the Consortium. By its nature, the Executive Management Core, Core A, is involved with all other Cores and the research program, to exert leadership and quality control over them. In its capacity as our knowledge warehouse/ communication center, the Information Management/Scientific Communications Core (Core B), receives input from all elements of the Consortium, and outputs information to military decision makers and others in rapid and efficient fashion. Core B content experts also provide oversight with specific reference to military relevance and sensitivity to military culture. The Database Management/Statistical Core, Core C, represents a highly valuable asset to the Consortium as a whole, perhaps particularly to the research program. Core C provides world-class data management and analysis infrastructure and consulting.

Body:

Statement of Work

Task 1. Project Start-up (months 1-3)

1a. Create infrastructure for all Cores (month 1)

- Core A and Core Directors have bi-monthly conference calls to discuss the Consortium, including its infrastructure.
- Core A and Core B research assistants developed the Consortium's Standard Operating Procedures (SOP; Started in August 2010, received MOMRP legal approval in February 2011). There have been three versions of the SOP; the most recent version was approved April 2012.

1b. Hire and train staff (month 2)

- Denver staff were hired and trained by August 2010, with pre-award funding approval.
- The MSRC reviewed its infrastructure and merged The Military/Civilian Research Monitoring Core with the Information Management/Scientific Communications Core, referred to as Core B. Originally Core D, The Database Management/Statistical Core was renamed Core C with the infrastructure changes.
- Denver staff hired an IRB Coordinator in May 2012.

1c. Core B (Military/Civilian Research Monitoring research assistants) conduct first comprehensive literature review (month 3)

- Accomplished by month 3 and distributed results to Cores A and C.

Task 2. Plan research projects (months 4-9)

2a. Establish research priorities in consultation with External Advisory Board (month 4)

- Core A chose preliminary research priorities in month 3, while External Advisory Board members were selected.
- The Military External Advisory Board (MEAB) and Independent Scientific Peer Review Program (ISPRP) members were chosen by month 7.
- The MEAB and Core A met with funded research teams in June 2011, November 2011, May 2012, August 2012, and May 2013.
- Core A reviews MEAB research priorities at the MEAB, IPR, and MSRC meetings.

2b. Assemble research teams (months 5-6)

- Assembling research teams is ongoing, beginning in month 5.
- There are 52 MSRC research members who receive information quarterly on the development of research within the MSRC.
- Eight Principal Investigators remain on the Unfunded Priorities List, should the MSRC receive additional funding.

2c. Continue creation of Core B infrastructure (months 4-9)

- Core B is co-located at the FSU site and the Denver site. Its infrastructure was enhanced in month 16, with the merging of the Cores.
- Core A contributed to the creation of Core B's infrastructure.

2c. Core A and Core B assist with protocol development and production (months 7-8)

- Core A and Core B collaborated on protocol development and production.
- Core A and Core C created a set of common data elements in collaboration with experts in the field of military and suicide.

2d. Core B review protocols to ensure proper military relevance (month 9)

- Core B reviewed all proposals ensuring military relevance.
- The MEAB also reviews protocols and ensures military relevance when research teams present proposals to the board.

Task 3. Implement intramural research projects (months 10-12)

3a. Preliminary study information submitted to Core B (month 12)

- Preliminary study information was submitted to Core B and added to the Consortium's website.
- Core B promotes research projects through multiple media venues and maintains the website on a daily basis.
- As of month 36, the MSRC Research Program funds 20 research projects and 4 postdoctoral pilot grants.

Task 4. Initial Consortium review by External Advisory Board (month 12)

- The Military External Advisory Board (MEAB) met with Core A in June 2011 (month 9) and November 2011 (month 14).
- Core A reviews the progress of the Consortium with their senior advisors at annual meetings and quarterly conference calls.

Task 5. Preparing year one quarterly reports (months 3, 6, 9, 12)

- The 1st, 2nd, 3rd and 4th quarter reports were prepared and distributed on time.

Task 6. Continue intramural research projects (months 13-60)

- Denver Research Institute funds 12 research projects:
    - *Usability and Utility of a Virtual Hope Box for Reducing Suicidal Ideation*, Dr. Nigel Bush, National Center for Telehealth and Technology/Portland VAMC, $307,128 (Appendix 2)
    - *A Behavioral Sleep Intervention for Suicidal Behaviors in Military Veterans: A Randomized Controlled Study*, Dr. Rebecca Bernert, Stanford University/Palo Alto VAMC, $1,182,369 (Appendix 3)
    - *Suicide Bereavement in Military and their Families*, Dr. Julie Cerel, University of Kentucky, $672,989 (Appendix 4)
    - *Window to Hope: Evaluating a Psychological Treatment for Hopelessness among Veterans with TBI: A Phase II RCT and an Active Control Component*, Drs. Lisa Brenner and Grahame Simpson, Denver VAMC, $986,789 (Appendix 5)
    - *Suicide Risk Assessments within Suicide-Specific Group Therapy Treatment for Veterans: A Pilot Study*, Drs. Lori Johnson and David Jobes, Robley Rex VAMC, $429,801 (Appendix 6)
    - *Toward a Gold Standard for Suicide Risk Assessment for Military Personnel*, Drs. Peter Gutierrez and Thomas Joiner, Denver VAMC/Florida State University, $2,852,189 (Appendix 7)
    - *Psychophysiology of Suicidal States*, Drs. Michael Allen and Theresa Hernández, Denver VAMC, $305,823 (Appendix 8)
    - *Neuroimaging Correlates of Suicide*, Drs. Deborah Yurgelun-Todd and Perry Renshaw, University of Utah Brain Institute/Salt Lake City VAMC, $755,096 (recently funded study, no reports submitted to date)
    - *A Novel Approach to Identifying Behavioral and Neural Markers of Active Suicidal Ideation: Effects of Cognitive and Emotional Stress on Working Memory in OEF/OIF/OND Veterans,* Drs. Melissa Amick and Beeta Homaifar, Boston VAMC/Denver VAMC, $648,313 (recently funded study, no reports submitted to date)
    - *Home-Based Mental Health Evaluation (HOME) to Assist Suicidal Veterans with the Transition from Inpatient to Outpatient Settings: A Multi-site Interventional Trial*, Dr. Bridget Matarazzo, Denver VAMC, $1,516,055 (recently funded study, no reports submitted to date)
    - *Effectiveness of a Virtual Hope Box Smartphone App in Enhancing Veteran's Coping with Suicidal Ideation: A Randomized Clinical Trial*, Dr. Nigel Bush, National Center for Telehealth and Technology/Portland VAMC, $888,703 (recently funded study, no reports submitted to date)
    - *Warning Signs for Suicide Attempts,* Drs. Courtney Bagge and Ken Conner, University of Mississippi Medical Center/University of Rochester Medical Center, $2,322,993 (recently funded study, no reports submitted to date)
- Florida State University funds 8 studies:
    - *Reason for Living (RFL) Intervention*, Dr. Craig Bryan, University of Utah, $1,013,904

- *Development and Evaluation of a Brief, Suicide Prevention Intervention Reducing Anxiety Sensitivity,* Dr. N. Brad Schmidt, Florida State University, $299,756
- *Military Continuity Project (MCP),* Dr. Katherine Comtois, University of Washington, $1,594,104
- *A Taxometric Investigation of Suicide,* Drs. Jill Holm-Denoma and Tracy Witte, University of Denver/Auburn University, $139, 620
- *Identifying Factors Associated with Future Suicidal Self-Directed Violence within a Sample of Mississippi National Guard Personnel,* Dr. Michael Anestis, University of Southern Mississippi, $704,000
- *Controlled Evaluation of a Computerized Anger-Reduction Treatment for Suicide Prevention,* Dr. Jesse Cougle, Florida State University, $200,000
- *New Approaches to the Measurement and Modification of Suicide-Related Cognition,* Dr. Matthew Nock, Harvard University, $886,665
- *Development and Evaluation of a Brief, Suicide Prevention Intervention Targeting Anxiety and Mood Vulnerabilities,* Dr. N. Brad Schmidt, Florida State University, $1,600,000

Task 7. Establish pre-doctoral and postdoctoral training experiences at FSU and MIRECC (month 24)

- Pre-doctoral and postdoctoral training experiences were established at FSU and the VISN 19 MIRECC.
- The MSRC funds four postdoctoral pilot grants:
  - *Assessment of Cognitive Functioning as it relates to Risk for Suicide in Veterans with HIV/AIDS*, Dr. Gina Signoracci, Denver VAMC, $47,454
  - *Behaviorally Assessing Suicide Risk*, Dr. Sean Barnes, Denver VAMC, $46,328
  - *Romantic Relationship Satisfaction and Self-Directed Violence in Veterans*, Dr. Amanda Stoeckel, Salt Lake City VAMC, $40,160
  - *Longitudinal Assessment of Physical Activity and Suicide Risk,* Dr. Collin Davidson, Denver VAMC, $46,665
- The MSRC offers annual Dissertation Completion Awards:
  - 2012 recipient: Jessica Ribeiro earned this award for her work on *Overarousal and Fearlessness about Death in Imminent Suicidal Behavior.* Ms. Ribeiro successfully defended her dissertation in June 2013.
  - 2013 recipient: Dan Capron earned the award for his study on the *Evaluation of a Cortisol-Augmented Interpretation Bias Modification for Anxiety Sensitivity on Suicidal Ideation.*
  - 2013 recipient: Alexis May earned the award for her study on *Assessing Motivations for Suicide Attempts: Developing and Validating a Theoretically Driven Instrument.*
- The MSRC held its first annual Pre-Conference Research Training Day for students and research fellows, with the purpose of developing pre-doctoral and postdoctoral students and fellows' skills as military/Veteran suicide researchers.

The MSRC offered a $1,000 stipend to 25 students and fellows to participate in this workshop. The event occurred in April 2013, in conjunction with the American Association of Suicidology's Annual Conference. The aims were to educate advanced students and fellows in state-of-the-art research techniques, grant writing, research design, and regulatory issues. With a response from 68% of the participants, all agreed that the program met their needs, with 94% interested in applying for the next MSRC training day. The faculty found the day to be productive, with 100% of the faculty interested in participating in the 2014 MSRC training day. In addition, two new MSRC members would like to be included as faculty for next year. Since the training day, participants started corresponding with potential collaborators, accessing national databases to answer research questions, writing grant applications, and two students earned an MSRC Dissertation Completion Award. The planning of the 2014 Pre-Conference Training Day is underway.

- MSRC postdoctoral fellow, Mike Anestis, accepted a tenure-track position as an Assistant Professor in the Department of Psychology, at the University of Southern Mississippi.

Task 8. Consortium review by External Advisory Board (month 24)

- The Military External Advisory Board (MEAB) met with Core A in May 2012 (month 20) and August 2012 (month 23).
- Drs. Gutierrez and Joiner presented to the MOMRP at the May 2012 In-Progress Review (IPR) meeting (month 20).
- Core A reviews the progress of the Consortium with their senior advisors at annual meetings and quarterly conference calls.

Task 9. Preparing year two quarterly reports (months 15, 18, 21, 24)

- The 1st, 2nd, 3rd and 4th quarter reports were prepared and distributed on time.

Task 10. Continue to refine research priorities (months 25-60):

- The MSRC maintains an Unfunded Priorities List and has ongoing dialogue with MOMRP and the MEAB on research priorities.

10a. Disseminate results in hand (month 27)

- Dr. Cerel completed a preliminary data analysis which she shared with Core C.
- Drs. Brenner, Bush, Cerel, Johnson, Schmidt, Bryan, Signoracci, Barnes, and Stoeckel are uploading data quarterly to Core C, after it is cleaned.

10b. Plan future projects (month 33-36)

- The MSRC submitted a grant application for the Consortium to continue for years 6-10, reviewing its progress and addressing the field's research priorities for the next several years.

Task 11. Consortium review by the MEAB (month 36)

- The Military External Advisory Board (MEAB) met with Core A in May 2013 (month 32).
- Drs. Gutierrez and Joiner presented to the MOMRP at the May 2013 In-Progress Review (IPR) meeting (month 32).
- Core A reviews the progress of the Consortium with their senior advisors at annual meetings and on an as needed basis.

Task 12. Preparing year three quarterly reports (months 27, 30, 33, 36)

- The 1st, 2nd, 3rd and 4th quarter reports were prepared and distributed on time.

Overall project timeline:

Year 1 — Complete Task s 1, 2, 3, 4, and 5

- Tasks 1, 2, 3, 4, 5, and 7 were completed. Task 6 is ongoing.

Year 2 — Complete Tasks 7, 8, and 9, Task 6 is ongoing for the length of the grant

- Task is 6 is ongoing, Tasks 7, 8, and 9 are completed. Task 10 was initiated.

Year 3 — Complete Tasks 10a, 10b, 11, and 12, Tasks 6 and 10 are ongoing for the length of the grant

- Tasks 6 and 10 are ongoing; Tasks 10a, 10b, 11 and 12 are completed.

Key Research Accomplishments:

- With the advisory support of the ISPRP and MEAB, the MSRC is funding twenty research projects and four postdoctoral pilot grants exploring suicide prevention, intervention, and postvention within active duty and Veteran populations.
- Authored 14 white papers at the request of Colonel Castro and MOMRP.
- In addition to the 24 studies funded by the MSRC, the MSRC Common Data Elements were distributed to the National Institute of Health and other researchers collecting data relevant to military suicide research.
- The MSRC estimates over $72 million was leveraged to support research in line with the Consortium's mission.

Reportable Outcomes:

Data collection is underway for five DRI subcontracted studies: Drs. Brenner, Bush, Cerel, Johnson, and Bernert.

MSRC staff presented at 14 conferences and meetings in FY2011 and attended a total of 26. In FY2012, the MSRC staff and funded PIs attended and presented at 11 conferences, for multiple breakout sessions. In FY2013, MSRC staff presented at 10 conferences and MSRC funded PIs introduced their research at 14 conferences.

Below are references for a number of the conference presentations:

Gutierrez, P. M., Assessing and Managing Suicide Risk in Primary Care. Presented at VA Community Based Outpatient Clinic, Appleton, WI, October 11, 2011.

Gutierrez, P. M., Suicide Prevention Presentation. Presented at Zablocki VAMC, Milwaukee, WI, October11, 2011.

Gutierrez, P. M. Military Suicide Research Consortium. Presented via webinar for the National Child Traumatic Stress Network Families Seminar. April 4, 2012.

Gutierrez, P. M. Navigating IRBs as a suicide researcher. Presentated at the American Association of Suicidology conference, Baltimore, MD, April 19, 2012.

Gutierrez, P. M., Fitek, D. J., Joiner, T., Holloway, M., Jobes, D., & Rudd, M. D. Status of Department of Defense funded suicide research. Featured Panel presentation at the American Association of Suicidology conference, Baltimore, MD, April 20, 2012.

Moroney, K. A., Hanson, J. E., Pease, J., Dwyer, M. & Gutierrez, P. M. Military Suicide Research Consortium: Infrastructure Poster Presentation. VA Research Days, Denver, CO, May 17, 2012.

Hanson, J. E., Moroney, K. A., Pease, J., Dwyer, M. & Gutierrez, P. M. Military Suicide Research Consortium Funded Studies Poster Presentation. VA Research Days, Denver, CO, May 17, 2012.

Gutierrez, P. M., Castro, C., Fitek, D. J., Holloway, M., & Jobes, D. A. Status of DoD funded suicide research. Presented at the Annual DoD/VA Suicide Prevention Conference, Washington, DC, June 20, 2012.

Matarazzo, B., Gutierrez, P. M., & Silverman, M. M. The Self-Directed Violence Classification System: What it is and why it matters. Presented at the Annual DoD/VA Suicide Prevention Conference, Washington, DC, June 20, 2012.

Moroney, K. A. & Gutierrez, P. M. Military Suicide Research Consortium. Military Health System Research Symposium. Ft. Lauderdale, FL, August 15, 2012.

Gutierrez, P. M. Suicide Risk Assessment & Safety Planning as a Stand Alone Intervention. Western Mountain/4A Vet Center Regional Training. Denver, CO, August 29, 2012.

Gutierrez, P. M., Joiner, T., & Castro, C. Preventing suicide in the United States military: Research challenges and opportunities. Presented at the 14th European Symposium of Suicide & Suicidal Behavior, Tel Aviv-Jaffa, Israel, September 5, 2012.

Gutierrez, P. M. Military Suicide Research Consortium. Presented at the Shoresh Conference, Ft. Detrick, MD., October 17, 2012.

Anestis, M.D. Self-harm does not occur on a whim. Plenary presentation at the American Association of Suicidology Annual Conference, Austin, TX. April 2013.

Gutierrez, P. M. Alcohol and Suicide: A deadly cocktail or a misinterpretation of the data? Plenary presentation at the American Association of Suicidology annual conference, Austin, TX. April 2013.

Ribeiro, J., Buchman, J., Bender, T., Nock, M., Rudd, M.D., Bryan, C., Lim, I., Baker, M., Knight, C., & Joiner, T. An investigation of the interactive effects of the acquired capability for suicide and acute agitation on suicidality in a military sample. Presented at the American Association of Suicidology annual conference, Austin TX, April 2013.

Ribeiro, J. The Interpersonal Theory of Suicide: Further developments and novel extensions. Austin, TX. Presented at the American Association of Suicidology annual conference, Austin TX, April 2013.

Dwyer, M., Soberay, K., Hanson, J., Gronau, K., & Gutierrez, P. M. Military Suicide Research Consortium. Poster presentation at the American Association of Suicidology annual Conference. Austin, TX. April 2013.

Soberay, K., Dwyer, M., Hanson, J., Gronau, K., Ribeiro, J., Gutierrez, P. M., & Maner, J. Exploring the MSRC Common Data Elements: The relationship between TBI, severe insomnia, and suicidal behaviors in military populations. Poster presentation at the American Psychological Association annual convention. Honolulu, HI. August 1, 2013.

Staff from the MIRECC and FSU sites collaborated on a secondary data analysis project resulting in the following article:

Ribeiro, J. D., Pease, J. L., Gutierrez, P. M., Silva, C., Bernert, R. A., Rudd, M. D., & Joiner, T. E. Jr. (2012). Sleep problems outperform depression and hopelessness as cross-sectional and longitudinal predictors of suicidal ideation and behavior in young adults in the military. *Journal of Affective Disorders, 136,* 743-750.

ABSTRACT:
Background: Sleep problems appear to represent an underappreciated and important warning sign and risk factor for suicidal behaviors. Given past research indicating that disturbed sleep may confer such risk independent of depressed mood, in the present report we compared self-reported insomnia symptoms to several more traditional, well-established suicide risk factors:

depression severity, hopelessness, PTSD diagnosis, as well as anxiety, drug abuse, and alcohol abuse symptoms.
Methods: Using multiple regression, we examined the cross-sectional and longitudinal relationships between insomnia symptoms and suicidal ideation and behavior, controlling for depressive symptom severity, hopelessness, PTSD diagnosis, anxiety symptoms, and drug and alcohol abuse symptoms in a sample of military personnel (N=311).
Results: In support of a priori hypotheses, self-reported insomnia symptoms were cross-sectionally associated with suicidal ideation, even after accounting for symptoms of depression, hopelessness, PTSD diagnosis, anxiety symptoms and drug and alcohol abuse. Self-reported insomnia symptoms also predicted suicide attempts prospectively at one-month follow up at the level of a non-significant trend, when controlling for baseline self-reported insomnia symptoms, depression, hopelessness, PTSD diagnosis and anxiety, drug and alcohol abuse symptoms. Insomnia symptoms were unique predictors of suicide attempt longitudinally when only baseline self-reported insomnia symptoms, depressive symptoms and hopelessness were controlled.
Conclusions: These findings suggest that insomnia symptoms may be an important target for suicide risk assessment and the treatment development of interventions to prevent suicide.

Staff from the VISN 19 MIRECC completed an extensive literature review resulting in the following article:

Matarazzo, B. B., Barnes, S. M., Pease, J., Russell, L. M., Hanson, J. E., Soberay, K. A., & Gutierrez, P. M. (in press). Suicide Risk among Lesbian, Gay, Bisexual, and Transgender Military Personnel and Veterans: What Does the Literature Tell Us? *Suicide & Life-Threatening Behavior.*

ABSTRACT:
Research suggests that both the military/Veteran and the lesbian, gay, bisexual and transgender (LGBT) populations may be at increased risk for suicide. A literature review was conducted to identify research related to suicide risk in the LGBT military/Veteran population. Despite the paucity of research directly addressing this issue, themes evident in the literature emerged related to LGBT status and suicide risk as well as LGBT military service members and Veterans. Factors such as social support and victimization appear to be particularly relevant. Suggestions are made with respect to future research that is needed on this very important and timely topic.

Publication Under Review:

Anestis, M. D., Soberay, K. A., Gutierrez, P. M. & Joiner, T. E. Jr. (under review). Reconsidering the link between impulsivity and suicidal behavior. *Personality and Social Psychology Review.*

Bodell, L. P., Forney, K. J., Keel, P. K., Gutierrez, P. M. & Joiner, T. E. (under review). A Review of Eating Disorders in the United States Military. *Clinical Psychology Science and Practice.*

Staffs from the MIRECC and FSU sites are preparing data and research information for the following topics:

Anestis, M.D., Joiner, T. E. Jr., Gutierrez, P. M., & Hanson, J. E. (research in progress) The modal suicide decedent was not intoxicated at the time of death: A meta-analysis with implications for understanding suicidal behavior and human nature.

MSRC funded PIs are published regularly and are working on several projects:
Dr. Craig Bryan currently has four manuscripts under review and eleven published articles, related to military and veteran suicide. The most notable is:

Bryan, C.J., & Clemans, T.A. (2013). Repetitive traumatic brain injury, psychological symptoms, and suicide risk in a clinical sample of deployed military personnel. JAMA Psychiatry.

Dr. Lisa Brenner and team plan to submit the following article on their cross-cultural adaptation of the Window to Hope Intervention:

Matarazzo, B.B., Clemans, T.A., Signoracci, G., Hoffberg, A., Simpson, G., Brenner, L.A. Cross-Cultural Adaptation of Window to Hope: A Psychological Intervention to Reduce Hopelessness in Individuals with a History of Traumatic Brain Injury. To be submitted to Brain Injury.

As of September 2013, the MSRC responded to 44 media inquiries and 29 research information requests, addressed 19 miscellaneous requests and referred 34 researchers to the BAA.

In an effort to take advantage of leveraging funds, this is a reoccurring agenda item on the bi-monthly conference calls. The MSRC collaborates in leveraging funds that include an increase of grant funds, time, and infrastructure support. Below are some of the most noteworthy leveraging funds efforts:

- Dr. Peter Gutierrez provided consultation for the recently awarded $10,000,000 Omega-3 and Suicide Prevention grant, in exchange for Dr. Acierno including the MSRC Common Data Elements in its data collection.
- Dr. Lisa Brenner, funded PI, included an active control component to the already established infrastructure and staff of the Window to Hope study. The additional active control group added only $112,470 to the project.
- Dr. Rebecca Bernert, funded PI, received an NIMH K Award, which allowed funds to hire more staff. With the support of the MSRC, Dr. Bernert is recognized as a leading expert in sleep and suicide, impacting the future of the field.

- Dr. Lisa Brenner and the VISN 19 MIRECC submitted the MSRC Common Data Elements within a Neurotrauma Consortium application, requesting $62 million in funding.
- Jennifer Hames, FSU graduate student, earned a dissertation grant for the amount of $10,000 with the support of MSRC Co-Director, Thomas Joiner. The grant was awarded by the Greater Good Science Center/John Templeton Foundation to support research on gratitude. Ms. Hames' research is titled, "Testing the Efficacy of a Gratitude Intervention in Individuals at Risk for Suicide and Depression".
- Dr. Rebecca Bernert, funded PI, was awarded the NIH Extramural Career Development LRP for Clinical Researchers.
- Dr. Peter Gutierrez consulted with Dr. Bob Heinssen, with the National Institute of Health (NIH), on possibly requiring the inclusion of the MSRC's Common Data Elements in all NIH funded grants.
- Dr. Gutierrez is working with the Colorado Office of Suicide Prevention as an advisor on their public health campaign targeting working age men. Dr. Gutierrez sent the MSRC common data elements to them as an opportunity to use as a self-assessment on their website. He continues to collaborate with the Colorado Office of Suicide Prevention on ways to support each other's efforts, such as program evaluations relevant to military populations. Drs. Gutierrez and Joiner consulted on the Mantherapy.org website that provides mental health outreach to adult males. Mantherapy.org continues to receive praise for its suicide awareness and prevention efforts; an Australian version was rolled out this summer.
- Dr. Thomas Joiner collaborated with Dr. Pamela Keel on a study of suicidal behavior and eating disorders. They are discussing opportunities to include military history questions in the survey.
- Drs. Peter Gutierrez and Thomas Joiner provide consultative services to several projects including a new FSU initiative connecting student veterans to national science foundation grant opportunities.
- At the request of Dr. Jane Pearson at NIMH, Drs. Gutierrez and Joiner are discussing ways to leverage the MSRC CDE and make us of existing data sets to explore questions of treatment effectiveness.
- Dr. Peter Gutierrez reviewed and consulted on the Defense Center of Excellence's (DCoE) Screening and Assessment Tools for Suicide Prevention Guide Resource.
- Drs. Peter Gutierrez and Thomas Joiner provided a general response letter to inquiries regarding research funding that frees time for officials and other funding sources.
- In efforts to support the next generation of suicidologists, the MSRC is providing pilot grant opportunities for Denver VAMC MIRECC postdoctoral fellows. The postdoctoral fellows' salaries are supported by the fellowship program; MSRC pilot grants allow fellows to conduct research relevant to the Consortium, within the structure of a developed program.
- Dr. Gutierrez provides consultative support to Dr. Joiner's Ft. Jackson study, with two papers and preliminary data analysis underway.
- Dr. Gutierrez participated on a panel during the Virtual Mentoring Network to Enhance Diversity of the Mental Health Research Workforce (VMED) program at the AAS Annual

Conference, to discuss career options and strategies that allow minority scholars to contribute to the goal of reducing the toll of suicide.

- Dr. Gutierrez provided consultation on the suicide screening and assessment review, at the request of Dr. Stephen Axelrad.
- Drs. Gutierrez and Joiner and COL Castro provided written input on the VA-DOD Clinical Practice Guidelines for Suicide Prevention.
- Drs. Gutierrez and Joiner, at the request of COL Castro and the House of Representatives, discussed the development of a proposal and designating an expert team to research IED exposure and possibly include this in the Common Data Elements.
- Dr. Joiner provided his expert opinion to Dr. Andrew Blatt regarding Dr. Elder and the DOD study on Predictive Analytics for Suicide Risk, on the application of these techniques.
- At the request of Dr. Nassauer, Dr. Joiner consulted on hyperbaric oxygen therapy (HBOT).
- Through the MSRC funded Gold Standard Study, Dr. Gutierrez collaborated with Israel Defense Forces psychologist Leah Shelef to add the Beck Suicidal Intent Scale (SIS) to Gold Standard Study protocol and Dr. Shelef to add the Self-Harm Behavior Questionnaire (SHBQ) and Suicidal Behaviors Questionnaire-Revised (SBQ-R) to their protocol. By administering the same measures to military personnel in the two countries, international data will be gathered and used to determine the best suicide risk assessment or combination of assessments. Both the SBQ-R & SHBQ have been translated into Hebrew.
- Elizabeth Allen, Ph.D., USAMRMC/TATRC funded PI requested the support of the MSRC to help recruit Army couples for a family study with a military suicide risk component. The MSRC connected Dr. Allen with MSRC funded PI, Dr. Julie Cerel to support each other's recruitment efforts. The MSRC also posted information about Dr. Allen's study on the Consortium website.

  Total leveraged funds: approximately $72,222,470

Conclusion:

The Military Suicide Research Consortium reached its annual goals and research aims. Denver Research Institute is currently funding twelve research projects and four postdoctoral research pilot grants. Florida State University funds eight research teams. There are eight studies on the unfunded priorities list. The three Cores collaborate on a daily basis, working toward the ultimate goals of suicide prevention in the military and information dissemination to decision makers, practitioners, and others who are accountable for ensuring the mental health of military personnel.

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Appendixes:

A1 VITA

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EDUCATION:

Degree	Date	Institution	Location
Ph.D., Clinical Psychology	1997	University of Michigan	Ann Arbor, MI
M.A., Clinical Psychology	1994	University of Michigan	Ann Arbor, MI
B.A., Psychology	1991	Winona State University	Winona, MN

Summa Cum Laude

AREAS OF SPECIALIZATION AND RESEARCH INTERESTS:
Suicide risk factors, assessment, and prevention. Young adult suicidality. Cultural validity of assessment tools and suicide risk models. Scale development and psychometric evaluation.

PROFESSIONAL EXPERIENCE:

7/1/09-	Associate Professor, University of Colorado School of Medicine, Department of Psychiatry.
6/9/08-	Licensed Clinical Psychologist, Colorado #3203.
2008-	Clinical/ Research Psychologist, Denver VA Medical Center, Mental Illness Research and Education Clinical Center.
2008-2009	Visiting Associate Professor, University of Colorado Denver School of Medicine, Department of Psychiatry.
2007-2008	Research Psychologist, Denver VA Medical Center, Mental Illness Research and Education Clinical Center.
2006-2008	Adjoint Associate Professor, University of Colorado Denver School of Medicine, Department of Psychiatry.
2006-2007	Research Consultant, Denver VA Medical Center, Mental Illness Research and Education Clinical Center.
2002-2007	Associate Professor, Northern Illinois University, Department of Psychology.
2002-2006	Assistant Chair, Northern Illinois University, Department of Psychology.
1996-2002	Assistant Professor, Northern Illinois University, Department of Psychology.
1995-1996	University of Michigan, University Center for the Child and Family, Psychology Intern (APA Accredited through University's Captive Consortium).
1993-1995	University of Michigan Medical Center, Division of Child and Adolescent Psychiatry, Department of Psychiatry, Psychology Intern (APA Accredited through University's Captive Consortium).

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BOOK/CHAPTERS (7):

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Gutierrez, P. M., & Brenner, L. A. (2011). Highlight section: Helping military personnel/Veterans and families manage stress reactions and navigate reintegration. In A. J. Palmo, W. J. Weikel, & D. P. Borsos (Eds.), *Foundations of mental health counseling, 4th Edition*. Springfield, IL: Charles C. Thomas Publisher, Inc.

Gutierrez, P. M. (2011). The accidental suicidologist. In M. Pompili (Ed.), *Suicide in the words of suicidologists*. Hauppauge, NY: Nova Science Publishers, Inc.

Jobes, D. A., Comtois, K. A., Brenner, L. A., & Gutierrez, P. M. (2011). Clinical trial feasibility studies of the Collaborative Assessment and Management of Suicidality (CAMS). In R. O'Connor, S. Platt, & J. Gordon (Eds.), *International handbook of suicide prevention: Research, policy, and practice.* Oxford, UK: John Wiley & Sons, Ltd.

Gutierrez, P. M., & Osman, A. (2008). *Adolescent suicide: An integrated approach to assessment of risk and protective factors.* DeKalb, IL: Northern Illinois University Press.

PAPER PRESENTATIONS (53):

Gutierrez, P.M. Toward a gold standard for suicide risk assessment for military personnel. Presented at the International Association for Suicide Prevention Congress, Oslo, Norway, September 27, 2013.

Gutierrez, P. M., Joiner, T., Blatt, A., & Castro, C. United States military suicide prevention research: Navigating challenges and capitalizing on opportunities. Presented at the International Academy of Suicide Research World Congress on Suicide, Montreal, Quebec, Canada, June 12, 2013.

Goodman, M., Gutierrez, P. M., Bossarte, R., Rasmusson, A. M., Brenner, L., & Stanley. B. Research updates and new directions for suicide prevention in the Veterans Administration. Discussant for symposium presented at the American Psychiatric Association annual meeting, San Francisco, CA, May, 19, 2013.

Gutierrez, P. M. Alcohol and suicide: A deadly cocktail or misinterpretation of data? Plenary address presented at the American Association of Suicidology conference, Austin, TX, April 26, 2013.

Gutierrez, P. M., Joiner, T., & Castro, C. Preventing suicide in the United States military: Research challenges and opportunities. Presented at the 14th European Symposium of Suicide & Suicidal Behavior, Tel Aviv-Jaffa, Israel, September 5, 2012.

Gutierrez, P. M., Castro, C., Fitek, D. J., Holloway, M., & Jobes, D. A. Status of DoD funded suicide research. Presented at the Annual DoD/VA Suicide Prevention Conference, Washington, DC, June 20, 2012.

Matarazzo, B., Gutierrez, P. M., & Silverman, M. M. The Self-Directed Violence Classification System: What it is and why it matters. Presented at the Annual DoD/VA Suicide Prevention Conference, Washington, DC, June 20, 2012.

Gutierrez, P. M., Fitek, D. J., Joiner, T., Holloway, M., Jobes, D., & Rudd, M. D. Status of Department of Defense funded suicide research. Featured Panel presentation at the American Association of Suicidology conference, Baltimore, MD, April 20, 2012.

Gutierrez, P. M. Navigating IRBs as a suicide researcher. Presentated at the American Association of Suicidology conference, Baltimore, MD, April 19, 2012.

Kemp, J., Thompson, C., Brown, G. K., Brenner, L. A., & Gutierrez, P. M. VA continuum of care for suicidal Veterans. Panel presentation at the American Association of Suicidology conference, Portland, OR, April 16, 2011.

Gutierrez, P. M., & Lineberry, T. United States Army Medical Research and Materiel Command United States military suicide research: Activities and opportunities. Panel presentation at the American Association of Suicidology conference, Portland, OR, April 14, 2011.

Bahraini, N., Gutierrez, P. M., Brenner, L. A., Hedegaard, H., & Huggins, J. The Colorado Violent Death Reporting System (COVDRS): Exploring factors associated with suicide in VA and non-VA services utilizing Veterans. Presented at the American Association of Suicidology conference, Portland, OR, April 14, 2011.

Marshall, J., Gutierrez, P. M., Lineberry, T., & Jobes, D. United States Army Medical Research and Material Command United States military suicide research activities: Activities and opportunities. Panel presentation at the DOD/VA Annual Suicide Prevention Conference, Boston, MA, March 15, 2011.

Gutierrez, P. M., Bahraini, N., Basham, C. M., Brenner, L. A., Hedegaard, H., Denneson, L. M., & Dobscha, S. K. Lessons learned about veteran suicide from the Colorado and Oregon Violent Death Reporting Systems. Presented at the American Association of Suicidology conference, Orlando, FL, April 22, 2010.

Gutierrez, P. M. Blister packaging medication to increase treatment adherence and clinical response: Impact on suicide related morbidity and mortality. Presented at the 2010 DoD/VA Suicide Prevention Conference, Washington, DC, January 12, 2010.

Gutierrez, P. M. Theater of War. Plenary Panel member at the 2010 DoD/VA Suicide Prevention Conference, Washington, DC, January 12, 2010.

Bahraini, N., Gutierrez, P. M., Brenner, L. A., Hedegaard, H., Chase, M., & Shupe, A. The Colorado violent death reporting system: Exploring factors associated
with suicide in VA and non-VA services utilizing veterans. Presented at the Centers for Disease Control and Prevention's NVDRS Reverse Site Visit, Denver, CO, May 14, 2009.

Leach, R. L., Breshears, R. E., Brenner, L. A., Homaifar, B. Y., Gutierrez, P. M., Gorgens, K. M., & Harwood, J. E. F. The utility of the Personality Assessment Inventory for predicting violence in veterans with traumatic brain injury. Presented at the Rehabilitation Psychology Conference, Jacksonville, FL, February 27, 2009.

Gutierrez, P. M. Collaborative assessment and management of suicide (CAMS): A feasibility study. DoD/VA Annual Suicide Prevention Conference, San Antonio, TX, January 13, 2009.

Gutierrez, P. M., Brenner, L. A., Homaifar, B. Y., & Olson-Madden, J. H. VA VISN 19 MIRECC research and clinical efforts at suicide prevention. Symposium presented at the American Psychological Association convention, Boston, MA, August 15, 2008.

Brausch, A. M., & Gutierrez, P. M. Body image and disordered eating in adolescent suicidality. Presented at the American Association of Suicidology conference, Boston, MA, April 17, 2008.

Gutierrez, P. M. Redefining diversity: The chronically suicidal veteran as one example. Presidential address at the American Association of Suicidology conference, Boston, MA, April 17, 2008.

Breshears, R. E., Brenner, L. A., & Gutierrez P. M. Predictive validity of the Personality Assessment Inventory in veterans with traumatic brain injury. Presented at the Rehabilitation Psychology Conference, Tucson, AZ, March 13, 2008.

King, C. A., Gutierrez, P. M., & Jobes, D. A. Looking back – looking ahead: American suicidology at mid-life. Plenary panel presentation at the American Association of Suicidology conference, New Orleans, LA, April 12, 2007.

Mazza, J. J., Reynolds, W. M., & Gutierrez, P. M. Screening for youth suicidal behavior revisited. Panel presentation at the American Association of Suicidology conference, New Orleans, LA, April 12, 2007.

Schumacher, M., Quinnett, P., & Gutierrez, P. M. QPRT suicide risk assessment and management course utility. Panel presentation at the American Association of Suicidology conference, New Orleans, LA, April 12, 2007.

Gutierrez, P. M. Change is good: What the past 40 years tell us about the future. Presidential address at the American Association of Suicidology conference, New Orleans, LA, April 12, 2007.

Gutierrez, P. M. Suicide in the young adult population. Presented at the Department of Veterans Affairs Employee Education System's Evidence-Based Interventions for Suicidal Persons conference, Denver, CO, February 8, 2007.

Rudd, M. D., Berman, L., Silverman, M. M., Gutierrez, P. M., & Schumacher, M. Warning signs for suicide: Theory, research, and clinical applications. Panel presented at the American Association of Suicidology conference, Seattle, WA, April 30, 2006.

Freedenthal, S. L., & Gutierrez, P. M. Adolescents' disclosures of suicidality: Who knows? Presented at the American Association of Suicidology conference, Seattle, WA, April 30, 2006.

Gutierrez, P. M. Shneidman Award Presentation – An integrated approach to assessing risk and protective factors for adolescent suicide. Presented at the American Association of Suicidology conference, Broomfield, CO, April 15, 2005.

Schumacher, M., & Gutierrez, P. M. Bipolar spectrum traits and suicide risk. Presented at the American Association of Suicidology conference, Broomfield, CO, April 15, 2005.

Gutierrez, P. M., & Osman, A. Prediction of adolescent suicide reattempts. Presented at the Kansas Conference in Clinical Child and Adolescent Psychology, Lawrence, KS, October 22, 2004.

Gutierrez, P. M., & Konick, L. C. Evaluation of school-based suicide prevention programs. Presented at the Suicide Prevention: Advancing the Illinois Strategic Plan conference, Springfield, IL, September 23, 2004.

Williams, J. E., Osman, A., Barrios, F., Kopper, B. A., & Gutierrez, P. M. Reliability and validity of the Inventory for Suicide Ideation – 30. Presented at the American Psychological Society conference, Chicago, IL, May 28, 2004.

Hovey, J. D., Freedenthal, S., Gutierrez, P. M., & Fernquist, R. Career development strategies in suicide research #1: Working with a mentor. Panel presented at the American Association of Suicidology conference, Miami, FL, April 15, 2004.

Conwell, Y., Silverman, M., Gutierrez, P. M., Konick, L. C., & Muehlenkamp, J. J. Career development strategies in suicide research #3: Publishing your findings. Workshop presented at the American Association of Suicidology conference, Miami, FL, April 16, 2004.

Konick, L. C., & Gutierrez, P. M. Suicide risk in college students: A test of a model. Presented at the 2004 American Association of Suicidology conference, Miami, FL, April 16, 2004.

Brausch, A. M., & Gutierrez, P. M. Does this magazine make me look fat? Media's impact on body image, depression, and eating. Presented at the Midwestern Psychological Association Conference, Chicago, IL, May 1, 2004.

Muehlenkamp, J. J., Swanson, J., & Gutierrez, P. M. Differences between self-injury and suicide on measures of depression and suicidal ideation. Presented at the Midwestern Psychological Association annual meeting, Chicago, IL, May 9, 2003.

Kaplan, M., Schultz, D., Gutierrez, P. M., Sanddal, N., & Fernquist, N. Suicide research: Working with a mentor. Panel presentation at the American Association of Suicidology annual conference, Santa Fe, NM, April 24, 2003.

Konick, L. C., & Gutierrez, P. M. Is spirituality a moderator of risk for suicide? Presented at the American Association of Suicidology annual conference, Santa Fe, NM, April 25, 2003.

Watkins, R. L., & Gutierrez, P. M. Exposure to peer suicide in college students. Presented at the American Association of Suicidology annual conference, Santa Fe, NM, April 25, 2003.

Gutierrez, P. M., Osman, A., Watkins, R. L., Konick, L. C., Muehlenkamp, J. J., & Brausch, A. M. Development and validation of the Suicide Resilience Inventory - 25 (SRI-25) in clinical and nonclinical samples. Presented at the Kansas Conference in Clinical Child Psychology, Lawrence, KS, October, 19, 2002.

Konick, L. C., Brausch, A. M., Gutierrez, P. M., & Pawlowski, C. CBT in depressed kids: What factors moderate treatment effectiveness? Presented at the Kansas Conference in Clinical Child Psychology, Lawrence, KS, October, 19, 2002.

Hovey, J. D., Gutierrez, P. M., & Jha, A. Measuring cultural risk factors in suicide research. Panel presented at the American Association of Suicidology annual conference, Atlanta, GA, April 19, 2001.

Gutierrez, P. M., Osman, A., Barrios, F. X., & Kopper, B. A. The Self-Harm Behavior Questionnaire. Presented at the American Association of Suicidology annual conference, Atlanta, GA, April 21, 2001.

Gutierrez, P. M., Collura, D., & Watkins, R. A case for regular suicide risk screening in high schools. Presented at the Kansas Conference in Clinical Child Psychology, Lawrence, KS, October 14, 2000.

Osman, A., Gutierrez, P. M., Kopper, B. A., Barrios, F. X., Breitenstein, J. L., & Silich, N. Validity and utility of the Adolescent Psychopathology Scale (APS) with adolescent psychiatric inpatients. Presented at the Kansas Conference in Clinical Child Psychology, Lawrence, KS, October 13, 2000.

Kopper, B. A., Gutierrez, P. M., Osman, A., & Barrios, F. X. Helping kids stay alive: The Reasons for Living Inventory - Adolescents. Presented at Western Psychological Association Annual Convention, Portland, OR, April 14, 2000.

Gutierrez, P. M., Rodriguez, P. J., & Foat, N. K. A model of late adolescent suicidality. Presented at the American Association of Suicidology annual conference, Houston, TX, April 15, 1999.

Gutierrez, P. M., Osman, A., Kopper, B. A., & Barrios, F. X. Quality of risk assessment with common measures. Presented at the American Association of Suicidology annual conference, Bethesda, MD, April 18, 1998.

POSTER PRESENTATIONS (52):

Soberay, K., Dwyer, M., Hanson, J., Ribeiro, J., Gronau, K., Gutierrez, P. M., & Maner, J. Exploring the MSRC common data elements: The relationship between TBI, severe insomnia, and suicidal behaviors in military populations. Presented at the American Psychological Association conference, Honolulu, HI, August 1, 2013.

Pease, J., Soberay, K., Dwyer, M., Gronau, K., & Gutierrez, P. M. Thwarted belonging makes a modest contribution to suicidal ideation after controlling for universalism and relationships. Presented at the American Psychological Association conference, Honolulu, HI, August 1, 2013.

Leitner, R., Gutierrez, P. M., Brenner, L., Wortzel, H., Forster, J. E., & Huggins, J. Psychometric properties of the Self-harm Behavior Questionnaire in Veterans. Presented at the American Psychological Association conference, Honolulu, HI, July 31, 2013.

Dwyer, M. M., Soberary, K., Hanson, J., & Gutierrez, P. M. Military suicide research consortium (MSRC). Presented at the American Association of Suicidology conference, Austin, TX, April 26, 2013.

Rings, J. A., Gutierrez, P. M., Harwood, J. E. F., & Leitner, R. Examining prolonged grief symptomatology and its relationship to self-directed violence among Veterans. Presented at the Veterans Affairs Mental Health Conference. Baltimore, MD, August 23, 2011.

Rings, J. A., Gutierrez, P. M., & Harwood, J. E. F. Prolonged grief disorder and its relationship to self-directed violence among Veterans: Preliminary findings. Presented at the Departments of Defense and Veterans Affairs Suicide Prevention Conference. Boston, MA, March 15, 2011.

Huggins, J., Homaifar, B.Y., Skopp, N.A., Reger, M., Gahm, G., Gutierrez, P., & Brenner, L.A. Suicide prevention through the transformation of data into information. Presented at the Departments of Defense and Veterans Affairs Suicide Prevention Conference. Boston, MA, March 15, 2011.

Betthauser, L. M., Allen, E., Brenner, L. A., & Gutierrez, P. M. Centrality of intimate relationships on failed belongingness and perceived burdensomeness in returning combat Veterans. Presented at the International Association for Relationship Research, Lawrence, KS, November, 2009.

Bahraini, N., Gutierrez, P. M., Brenner, L. A., Huggins, J., Hedegaard, H., Shupe, A., & Chase, M. The Colorado violent death reporting system: Exploring factors associated with suicide in VA and non-VA services utilizing veterans. Presented at the American Psychological Association conference, Toronto, Ontario Canada, August 6, 2009.

Brausch, A. M., & Gutierrez, P. M. Psychosocial factors related to non-suicidal self-injury in adolescents. Presented at the American Association of Suicidology annual conference, San Francisco, CA, April 17, 2009.

Ballard, E. D., Jobes, D., Brenner, L., Gutierrez, P. M., Nagamoto, H., Kemp, J., et al. Qualitative suicide status form responses of suicidal veterans. Presented at the American Association of Suicidology conference, Boston, MA, April 18, 2008.

Bahraini, N., Gutierrez, P. M., Brenner, L. A., Staves, P., Cornette, M., & Betthauser, L. Pain tolerance and links to increased suicide risk. Presented at the American Association of Suicidology conference, Boston, MA, April 18, 2008.

Cornette, M. M., DeBoard, R. L., Clark, D. C., Holloway, R. H., Brenner, L., Gutierrez, P. M., & Joiner, T. E. Examination of an interpersonal-behavioural model of suicide: Toward greater specificity in suicide risk prediction. Presented at the International Association for Suicide Prevention conference, Dublin, Ireland, August 31, 2007.

Brenner, L. A., Gutierrez, P. M., Cornette, M., Staves, P. J., & Betthauser, L. M. Veterans' experiences of habituation to painful stimuli, perceived burdensomeness and failed belongingness. Presented at the American Psychological Association conference, San Francisco, CA, August 19, 2007.

Fang, Q., Choma, K., Salvatore, A., Mack, T., Bailey, J., & Gutierrez, P. M. Validation of the Pain Distress Inventory using an adolescent inpatient sample. Presented at the Kansas Conference in Clinical Child and Adolescent Psychology, Lawrence, KS, October 19, 2006.

Brausch, A. M., & Gutierrez, P. M. Adolescent gender differences in reasons for living. Poster presented at the American Association of Suicidology conference, Seattle, WA, April 30, 2006.

Swanson, J. D., & Gutierrez, P. M. Gender, social support, and student suicidality. Poster presented at the American Association of Suicidology conference, Seattle, WA, April 30, 2006.

Kopper, B. A., Osman, A., Gutierrez, P. M., Williams, J. E., & Barrios, F. X. Suicide Resilience Inventory-25: Validation with normal and adolescent psychiatric inpatients. Poster presented at the 2005 APA conference, Washington, DC.

Kopper, B. A., Osman, A., Barrios, F. X., Gutierrez, P. M., & Williams, J. E. The Beck Depression Inventory-II with nonclinical and inpatient adolescents. Poster presented at the 2005 APA conference, Washington, DC.

Brausch, A. M., & Gutierrez, P. M. Ethnic differences in body image, affect, and eating behaviors and the impact of media exposure. Presented at the Association for the Advancement of Behavior Therapy conference, New Orleans, LA, November 11, 2004.

Muehlenkamp, J. J., & Gutierrez, P. M. Validation of the Self-Harm Behavior Questionnaire in adolescents. Presented at the Association for the Advancement of Behavior Therapy conference, New Orleans, LA, November 11, 2004.

Linden, S., Osman, A., Barrios, F. X., Kopper, B. A., Williams, J. E., & Gutierrez, P. M. Structure of the Adolescent Psychopathology Scale (APS) clinical subscales in psychiatric inpatients. Presented at the Association for the Advancement of Behavior Therapy conference, New Orleans, LA, November 11, 2004.

Osman, A., Williams, J. E., Barrios, F. X., Kopper, B. A., Gutierrez, P. M., Linden, S. C., & Carlson, N. Development of cutoff scores for the Beck scales in adolescent psychiatric inpatients. Presented at the Kansas Conference in Clinical Child and Adolescent Psychology, Lawrence, KS, October 21, 2004.

Osman, A., Barrios, F. X., Gutierrez, P. M., Kopper, B. A., Williams, J. E., Carlson, N., & Koser, K. Reliability and validity of the Multidimensional Anxiety Scale for Children and the Children's Depression Inventory. Presented at the Kansas Conference in Clinical Child and Adolescent Psychology, Lawrence, KS, October 21, 2004.

Osman, A., Gutierrez, P. M., Barrios, F. X., Kopper, B. A., Linden, S. C., Carlson, N., & Koser, K. The Reynolds Adolescent Depression Scale 2: Reliability and validity. Presented at the Kansas Conference in Clinical Child and Adolescent Psychology, Lawrence, KS, October 21, 2004.

Muehlenkamp, J. J., & Gutierrez, P. M. Are self-injurious behaviors and suicide attempts different points on the same continuum? Presented at the Suicide Prevention: Advancing the Illinois Strategic Plan conference, Springfield, IL, September 23, 2004.

Brausch, A. M., Swanson, J., & Gutierrez, P. M. Parent marital status, depression and suicide. Presented at the American Association of Suicidology conference, Miami, FL, April 16, 2004.

Konick, L. C., Gutierrez, P. M., Muehlenkamp, J. J., Watkins, R. L., Ward, K. E., & Haase, K. Development of the Spiritual Attitudes and Beliefs Inventory: Phase II. Presented at the Midwestern Psychological Association annual meeting, Chicago, IL, May 8, 2003.

Konick, L. C., Gutierrez, P. M., & Watkins, R. L. Adult Suicidal Ideation Questionnaire psychometrics. Presented at the American Association of Suicidology annual conference, Santa Fe, NM, April 25, 2003.

Gutierrez, P. M., & Muehlenkamp, J. J. Understanding differences between self-injurious behavior and suicide attempts in high school students. Presented at the Kansas Conference in Clinical Child Psychology, Lawrence, KS, October, 18, 2002.

Gutierrez, P. M., Osman, A., Brausch, A. M., Muehlenkamp, J. J., Watkins, R. L., & Konick, L. C. Reliability and validity of the Beck scales in the assessment of suicide-related behaviors in adolescent psychiatric inpatients. Presented at the Kansas Conference in Clinical Child Psychology, Lawrence, KS, October, 18, 2002.

Gutierrez, P. M., Osman, A., Watkins, R. L., & Muehlenkamp, J. J. Potential racial differences in adolescent suicide risk. Presented at the Kansas Conference in Clinical Child Psychology, Lawrence, KS, October, 18, 2002.

Osman, A., Gutierrez, P. M., Kopper, B, A., Barrios, F. X., Boyle, T., & Duncan, A. The Inventory of Suicide Orientation - 30: Further validation with adolescent inpatients. Presented at the Kansas Conference in Clinical Child Psychology, Lawrence, KS, October, 18, 2002.

Osman, A., Linden, S., Gutierrez, P. M., Barrios, F. X., Kopper, B. A., & Forman, K. Validity of the Adolescent Psychopathology Content Scales (APS) in Pediatric Medical Institute for Children (PMIC) inpatients. Presented at the Kansas Conference in Clinical Child Psychology, Lawrence, KS, October, 18, 2002.

Konick, L. C., Wrangham, J. J., Gutierrez, P. M., Blacker, D., Watkins, R. L., Aalders, G., Giannerini, J., Miller, M. J., Rapp, J. M., Shayne, L. E., & Ward, K. E. Development of the Spiritual Attitudes and Beliefs Inventory (SABI). Presented at the annual meeting of the Midwestern Psychological Association, Chicago, IL, May 2, 2002.

Gutierrez, P. M., Wrangham, J., Konick, L., Osman, A., & Barrios, F. X. Does ethnicity influence adolescent suicide risk? Presented at the American Association of Suicidology annual conference, Bethesda, MD, April 12, 2002.

Wrangham, J., Gutierrez, P. M., Osman, A., & Barrios, F. X. Validation of the PANSI with minority young adults. Presented at the American Association of Suicidology annual conference, Bethesda, MD, April 12, 2002.

Konick, L. C., Brandt, L. A., & Gutierrez, P. M. School-based suicide prevention programs: A meta-analysis. Presented at the American Association of Suicidology annual conference, Bethesda, MD, April 12, 2002.

Gutierrez, P. M., Osman, A., Kopper, B. A., & Barrios, F. X. Use of the Multi-Attitude Suicide Tendency Scale with minority individuals. Presented at the meeting of the Midwestern Psychological Association, Chicago, IL, May 4, 2001.

Valentiner, D., Gutierrez, P. M., Deacon, B., & Blacker, D. Factor structure and incremental validity of the Anxiety Sensitivity Index for Children in an adolescent sample. Presented at the annual meeting of the Society for Research in Child Development, Minneapolis, MN, April 21, 2001.

Gutierrez, P.M., Rodriguez, P. J., & Garcia, P. Minority suicide risk. Presented at the American Association of Suicidology annual conference, Los Angeles, CA, April 13, 2000.

Kopper, B. A., Gutierrez, P. M., Osman, A., Barrios, F. X., Baker, M. T., & Haraburda, C. M. Reasons for Living Inventory for Young Adults: Psychometric properties. Presented for Division 17 - Counseling Psychology - at the annual convention of the American Psychological Association, Washington, DC, August 5, 2000.

Kopper, B. A., Gutierrez, P. M., Osman, A., Barrios, F. X., & Bagge, C. L. Assessment of suicidal ideation in college students. Presented for Division 17 - Counseling Psychology - at the annual convention of the American Psychological Association, Washington, DC, August 5, 2000.

Gutierrez, P. M., Rubin, E. C., & Blacker, D. A preliminary investigation of the role of suicide exposure and attitudes about death on adolescent suicidal ideation. Presented at the Midwestern Psychological Association annual conference, Chicago, IL, May 4, 2000.

Martin, H., & Gutierrez, P. M. The role of mediating factors on the long-term relationship between early parental death and later depression and anxiety. Presented at the Midwestern Psychological Association Annual Conference, Chicago, IL, May 4, 2000.

Kopper, B. A., Osman, A., Gilpin, A. R., Panak, W. F., Barrios, F. X., Gutierrez, P. M., & Chiros, C. E. The Multi-Attitude Suicide Tendency Scale: Further validation with adolescent psychiatric inpatients. Presented at the annual convention of the American Psychological Association, Boston, MA August 22, 1999.

Kopper, B. A., Osman, A., Linehan, M. M., Barrios, F. X., Gutierrez, P. M., & Bagge, C. L. Validation of the Adult Suicide Ideation Questionnaire and the Reasons for Living Inventory in an adult psychiatric inpatient sample. Presented at the annual convention of the American Psychological Association, Boston, MA August 22, 1999.

Osman, A., Bagge, C. L., Barrios, F. X., Gutierrez, P. M., & Kopper, B. A. Receiver operating characteristic curve analyses of the Beck Depression Inventory - II in adolescent psychiatric inpatients. Presented at the Kansas Conference in Clinical Child Psychology, Lawrence, KS, October 9, 1998.

Osman, A., Bagge, C. L., Gutierrez, P. M., Kopper, B. A., & Barrios, F. X. Validation of the Reasons for Living Inventory for Adolescents (RFL-A) in a clinical sample. Presented at the Kansas Conference in Clinical Child Psychology, Lawrence, KS, October 9, 1998.

Kopper, B. A., Osman, A., Hoffman, J., Gutierrez, P. M., & Barrios, F. X. Reliability and validity of the BDI-II with inpatient psychiatric adolescents. Presented at Division 12 - Clinical Psychology - at the annual convention of the American Psychological Association, San Francisco, CA, August 16, 1998.

Gutierrez, P. M., & Hagstrom, A. H. Uses for the Multi-Attitude Suicide Tendency Scale. Presented at the American Association of Suicidology annual conference, Bethesda, MD, April 17, 1998.

Gutierrez, P., & Williams, J. Children's understanding of death. Presented at the Midwestern Psychological Association annual meeting, Chicago, IL, May, 3, 1991.

GRANTS AND AWARDS:

10/12-9/14	Department of Veterans Affairs National Center for Patient Safety; Co-investigator (PIs Robert Bossarte, Ph.D. & Ira Katz, MD); **$569,222** for *Patient Safety Center of Inquiry*.
3/11-2/13	Department of Defense, Military Operational Medicine Research Program, grant; Consultant (PI Steven Vannoy, Ph.D., MPH); **$1,354,386** for *Development and Validation of a Theory Based Screening Process for Suicide Risk.*
3/11-3/15	Department of Defense, Military Operational Medicine Research Program, grant; Co-Investigator; **$3,400,000** for *A Randomized Clinical Trial of the Collaborative Assessment and Management of Suicidality vs. Enhanced Care as Usual for Suicidal Soldiers.*
9/10-9/15	Department of Defense, Military Operational Medicine Research Program, grant; Principal Investigator: jointly with Thomas Joiner, Ph.D., Florida State University; **$15,000,000 (additional $15,000,000 going to FSU)** for *Military Suicide Research Consortium.*
9/09-9/14	Department of Defense, Military Operational Medicine Research Program, grant; Principal Investigator; **$1,173,408** for *Blister Packaging Medication to Increase Treatment Adherence and Clinical Response: Impact on Suicide-related Morbidity and Mortality.*
5/09-5/10	Colorado TBI Trust Fund Education grant; **$8427** to support the hosting of a conference of national experts in suicide safety planning and TBI rehabilitation.
5/08-5/09	Colorado TBI Trust Fund Education grant; **$5,000** to support the hosting of a conference of national experts in assessment of TBI and suicide risk and the role of executive dysfunction in linking the two problems.
2005	Shneidman Award for Significant Contributions to Suicide Research, American Association of Suicidology
2003	Outstanding Young Alumni, Winona State University

PROFESSIONAL SERVICE:

1/12-	Department of Psychiatry Faculty Promotions Committee
1/12-	Editorial Board Member, *Archives of Suicide Research*, Barbara Stanley, Ph.D., Editor-in-Chief
4/09-	Associate Editor, *Suicide and Life-Threatening Behavior*, Thomas Joiner, Ph.D., Editor-in-Chief.
4/09-4/11	Past-president, Board position, of the American Association of Suicidology.
3/09-12/09	U. S. Army Suicide Reduction and Prevention Research Strategic Planning Workgroup, Soldier Identification and Case Management Expert Lead.
5/07-10/08	Member of the International Advisory Board for the Australian National Study of Self Injury (ANESSI), Professor Graham Martin, Director.
4/07-4/09	President of the American Association of Suicidology.
3/06-3/07	Reviewer for National Registry of Evidence-based Programs and Practices, Substance Abuse and Mental Health Services Administration.
4/05-4/07	President-Elect of the American Association of Suicidology.
2/04-4/09	Consulting Editor and Editorial Board member, *Suicide and Life-Threatening Behavior*,

Morton M. Silverman, M.D., Editor-in-Chief.

11/02-6/06 Member, Illinois Suicide Prevention Strategic Planning Task Force, Illinois Department of Public Health.

3/02-1/06 Member, American Association of Suicidology Institutional Review Board.

4/00-4/03 Director, Research Division, American Association of Suicidology.

4/99- Ad hoc reviewer for *Psychiatry Research; Journal of Personality Assessment; American Journal of Public Health; Internal Journal of Circumpolar Health; Death Studies; Social Problems; Journal of Adolescent Research; Child Abuse and Neglect; British Journal of Clinical Psychology; Journal of Clinical and Consulting Psychology; Journal of Abnormal Psychology; International Journal of Psychology; Archives of Suicide Research; American Journal of Orthopsychiatry; Journal of Mental Health Counseling; Crisis.*

1998-2002 Member, North Central Association Outcomes Endorsement Team for Auburn High School, Rockford, IL.

7/98-4/00 Chair, Publications Committee, American Association of Suicidology.

1998-2006 Director, Adolescent Risk Project, Auburn High School, Rockford, IL. Combined research and suicide risk screening project.

1997-2006 Faculty Associate of the Center for Latino and Latin-American Studies at Northern Illinois University.

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS:

2010- International Academy for Suicide Research, Fellow

2007- Colorado Psychological Association

2003-2010 International Academy for Suicide Research, Associate Member

1999- APA Div. 12, Section VII, Clinical Emergencies and Crises

1998-2010 APA Div. 53, Society of Clinical Child and Adolescent Psychology

1997-2007 Midwestern Psychological Association

1996- American Association of Suicidology

A2 Usability and Utility of a Virtual Hope Box for Reducing Suicidal Ideation
Nigel Bush, Ph.D.

Task 1: Finalize agreements and subcontracts with participating clinical site (Months 1-2)

- Final completion in Month 5.
    - The process for subcontract agreement with VA Portland was started in months 1 and 2 and finally executed on March 19, 2012.

Task 2: Hire and train Phase 1 (P1) study staff (Months 1-3)

- Completed on schedule.
    - The mobile application developer was hired in November 2011 and equipment for him was procured. Development and testing of the VHB app began December 2011.

Task 3: Develop and test VHB app. (Months 4-9).

- Completed on schedule.
    - Android and iPhone versions of the VHB were developed concurrently using an iterative process of "agile" modular designing, testing and modifying.
    - Heuristic usability testing of progressing prototypes, including graphics, layout and interface was completed by the T2 TEC lab on February 10.
    - Functionality usability testing by the TEC lab commenced on March 26 and was completed April 6 and the VHB was determined to be ready for Phase 2.

Task 4: Set up Phase 2 (P2) clinical site (Months 10-12).

- Completed on schedule.
    - Initial training for the clinical site staff was conducted April 24 by Dr. Bush in Portland.
    - Preliminary Portland VA IRB approval was obtained in April followed by MSRC and HRPO in July. Final minor modifications to the protocol, study materials and processes were made through a series of collaborative dialogs between T2 and Portland. Final Portland IRB approval process was close to complete as of 10/19/2012.
    - The Portland onsite study coordinator was hired July 30, 2012 and completed training at T2 August 31, 2012.
    - Training of participating clinic providers was completed by the coordinator November 1, 2012.
    - Portland VA clinic space was allocated for study participant recruitment and assessment in October 2012.
    - In preparation for recruitment, cell-phone signal hot-spot equipment was installed for study use October 2012.
    - Obtained approval from Portland IRB to add iPhone version of VHB to study and introduced the iPhone version of VHB as option to participants in October 2012.

Task 5: Hire and train Phase 2 study staff (Months 10-12)

- Completed on schedule

Task 6: Implementation of Phase 2 intervention and data collection (Months 10-18)

- Completed by month 24.
    - Recruitment for Phase 2 began November 2012.
    - All participants have completed construction of their respective VHB or Physical Hope Box and are either actively field testing them or have completed the first phase of the study and moved on to constructing and testing the alternative hope box medium, as of March 2013.
    - As of October 2013, enrollment is complete. The specified sample size was 10-25, 19 Veterans were recruited with 9 assigned to the VHB-PHB arm and 10 assigned to the PHB-VHB arm (virtual hope box or physical hope box cross-over design). One participant of the latter group withdrew, leaving 9 in each group.

Task 7: Data analysis and dissemination of results (Months 19-27)

- Ongoing, approved No-Cost Extension to complete final data and dissemination tasks
    - Recruiting has ceased with a final sample of 18.
    - As of month 24, provider interviews are complete and data cleaning and analysis is ongoing.

Task 8: VHB App Modification (Months 25-29)

- Ongoing, approved No-Cost Extension to complete modification that will support RCT study
    - VHB application updates based on user and provider feedback are ongoing.

Presentations:

Bush, N. Development and Evaluation of a Virtual Hope Box for Reducing Suicidal Ideation. DoD/VA Suicide Prevention Conference, June 20, 2012, Washington, DC.

As of September 2013, Dr. Bush participated in four radio and podcast interviews regarding the Virtual Hope Box study.

A3 A Behavioral Sleep Intervention for Suicidal Behaviors in Military Veterans: A Randomized Controlled Study
Rebecca Bernert, Ph.D.

Task 1: Secure Approvals, Hire/Train Personnel, Prepare for Data Collection
Months 1-3: Complete

IRB/ R&D/ HRPO/ Sponsor Approvals: Complete

- Revised IRB submission and approval through Stanford University/ VA Palo Alto Research & Development (R&D) Committee, following revised and expanded protocol (e.g., to include fMRI scans) (Approved 9/25/2012)
- HRPO submission and approval of protocol for Continuing Review/ Sponsor-related approval (Approved 8/13/2012)

Data and Safety Monitoring Board Assembly and Clinical Trials Registry: Complete

- Finalized assembly and membership of DSMB
- Registered protocol at Clinicaltrials.gov
- Registered protocol at Stanford Clinical Trials Registry

Task 2: Hire/Train Personnel, Prepare for Data Collection, Initiate Recruitment and Screening/Randomize 120 Eligible OEF/OIF returnees, Conduct RCT Data Collection
Months 3-21: Ongoing, request for No-Cost Extension Approved

Personnel/ Stanford/ PAIRE Hiring and WOC VAPAHCS Appointment Processing/ Badging: Complete

- Completed hiring search and institutionally-required job postings/ employment paperwork for project staff
- Founded research program (Suicide Prevention Research Laboratory) and initiated formal affiliation with Stanford Mood Disorders Centers
- Developed trainee apprenticeship program in affiliation with Stanford University, Palo Alto University (clinical psychology graduate programs PhD/PsyD), and VA Palo Alto HCS Volunteer Services to further expand lab and research assistant infrastructure to support project management; retained two PhD students as part of this 2-year program; initiated associated Stanford-related and WOC paperwork

Revised Budget for NGA K23/ Revised Budget for Supplemental Funds and Protocol Expansion: Complete

- Revised submission and approval of Budget Justification (March 2012) due to Dr. Bernert's (formerly budgeted) effort now subsumed under an NIH CDA (K23)
- Secured additional consultation (March 2012) in Desensitization Treatment for Insomnia (DTI), for manual development in group therapy format for comparison to MSPI (Dr. Rachel Manber); obtained consultation agreement and approval of revised Budget Justification
- Revised submission and approval of Budget Justification (May 2012) and Project Narrative for proposed use of Supplemental funds; approval obtained through RMG/ OSR; expanded scientific protocol to include fMRI (to examine biological correlates of emotion regulation in treatment) among subsample at pre-/post-treatment in collaboration with laboratory of Dr.

Amit Etkin (Stanford); coordinated scan scheduling and hiring for subspecialty focus within project.

Study Investigator Meetings/ Consultation Meetings: Ongoing

- Completed regularly-scheduled Consultation and Co-Investigator meetings

Equipment/ Infrastructure/ Protocol Development and SOP Manual Development: Complete

- Purchased all sleep monitoring (Actigraphy) devices (24) and commercialized software; and docking systems; completed training inservice by Respironics on site at Stanford
- Completed beta testing for Actigraphy equipment and software installation; obtained additional license for VA-installation of software and docking systems for study use
- Purchased/ Ordered additional budgeted equipment/ Supplies/ OI&T Services for infrastructure: Initiated contracting for recruitment-related study advertising, including web development and design (for both Study website and Lab webpage-linked to Stanford.edu), as well as print media recruitment services (meeting occurred 9/28/12 with company; contract initiated and internal paperwork is underway); researched use of RedCap to facilitate internet-based screening and recruitment.
- Completed Manual of Operations to standardize site-specific recruitment and randomization procedures and standard operating procedures; secured fMRI imaging scan access/ defined procedures for scheduling for scans by treatment group
- Completed MSPI treatment manual, including treatment manual for therapists, session-by-session PowerPoints, study scripts, homework assignments, and patient/therapist handouts)
- Organized laboratory radioimmunoassay/ genotyping/ tissue banking services and billing with Stanford Hospitals and Clinics, Clinical Translational Research Unit (CTRU) under award via VA Palo Alto HCS; secured long-term VA -80 freezer space for sample storage

Dissemination Activities/ Conference Presentations and Attendance/ Relevant Scholarly Work: Ongoing

- Presented at three research conferences in topic area: APSS (Boston, June 2012,) and the VA/DOD Suicide Prevention Conference (DC, June 2012), ACAAP (San Francisco, October 2012)
- Invited contributor to VA/DOD 2012 Suicide Prevention Clinical Practice Guidelines (focus on sleep as a risk factor for suicide based on Consortium-funded and additional preliminary studies)

Recruitment and Screening: Ongoing

- Recruitment efforts include a comprehensive recruitment plan developed in partnership with military installations and outreach services within VA programs, clinic presentations, chart reviews and direct mailings, and participation in military-specific events.
- The staff initiated study screenings via telephone and in-person, with an *n* of 48. Of the 48, 11 met inclusion criteria for eligibility assessment visits and 5 for delayed eligibility visits. Following the eligibility assessment, 4 were enrolled to complete baseline and randomized into treatment. One participant withdrew prior to receiving treatment.

Task 3: Complete Follow-Up Testing, Conduct Data Analyses, Prepare for Publications Months 21-24: Request for No-Cost Extension Approved

A4 Suicide Bereavement in Military and their Families
Julie Cerel, Ph.D.

Task 1. Protocols submitted to and approved by IRB – Completed
The project was approved by the University of Kentucky IRB and HRPO.

Task 2. Obtain sample for random digit-dial survey – Completed
The Suicide Bereavement in Military and their Families research team obtained a sample for random-digit dial survey via landline and cell phone.

Task 3. Engagement with local/national organizations to obtain sample of family members – In Progress, Approved for a No-Cost Extension, expected completion date is April 2014.
The Suicide Bereavement team is engaging organizations to be able to help recruit family members. This is an ongoing process.

Task 4. Family interviews – In Progress, Approved for a No-Cost Extension, expected completion date is April 2014.
The research team completed 19 family interviews and continues to recruit family members

Task 5. Veteran and community members invited to complete online surveys – In Progress, Approved for a No-Cost Extension, expected completion date is April 2014.
The team revised the methodology so that they get phone numbers at phase 1 and schedule people directly for phase 3 interviews. Participants can later return and complete the online measures for phase 2.

Task 6. Interview of suicide and traumatic-death exposed veterans and suicide-exposed community members – In Progress, Approved for a No-Cost Extension, expected completion date is April 2014.
102 phase 3 interviews have been completed

Task 7. Transcription of interviews and data analysis – In Progress, Approved for a No-Cost Extension, expected completion date is May 2014.
Transcriptionists made substantial progress with 54 of the 102 interviews transcribed.
Preliminary data analysis has begun.

Other Progress

Cerel, J., van de Venne, J., Moore, M,, Maple, M., Walsh, S., Flaherty, C (2013, April). Exposure to Suicide in Veterans and Community Members: A Random Digit Dial Study. Poster Presentation at the American Association of Suicidology, Austin, TX.

Maple, M., Cerel, J., van de Venne, J., Moore, M., Flaherty, C. & Walsh, S. (2013). Prevalence and impact of exposure to suicide in veterans and community members. Presented at the 2013 Suicide Prevention Australia. Sydney, Australia

Cerel, J. (2013, September). Who is Exposed, Affected & Bereaved Following Suicide? Invited plenary. Suicide Prevention Information New Zealand (SPINZ) World Suicide Prevention Day, Auckland, NZ.

As of September 2013, Drs. Cerel and Moore responded to 18 media inquiries regarding the Suicide Bereavement in Military and their Families.

A5 Window to Hope: Evaluating a Psychological Treatment for Hopelessness among Veterans with TBI: A Phase II RCT and an Active Control Component
Lisa A. Brenner, Ph.D., ABPP

PHASE I: Study Initiation/Cross-cultural Adaptation/Feasibility/Acceptability & Conduct WtoH Pilot

Task 1: Build infrastructure; begin adapting WtoH for a Veteran population; hire and train personnel; create database/measures; expert consensus meeting; revise intervention; obtain regulatory approval

- Staff hired and trained, database created (Q1: **Completed**)
- Initial cross-cultural adaptation procedures completed (Q1-Q2: **Completed**)
- Regulatory approval to conduct human subjects research obtained (Q1-Q2: **Completed**)

Task 2: Train treatment providers on WtoH; recruit for WtoH pilot phase; conduct pilot group, analyze pilot data, and adapt WtoH treatment

- Pilot groups completed; data analyzed (Q1-Q2: **Completed**)
- WtoH further adapted according to feedback and ready for RCT(Q1-Q2: **Completed**)

PHASE II: RCT

Task 3: Recruit and consent participants for RCT; collect and enter Time 1 data

- 90 recruited to complete study procedures; Time 1 data collected and entered (Q2-Q8: **In Progress**)

  Progress: RCT screening and recruitment procedures continue, with baseline assessments pending for the Block 7 participants. 30 participants have been consented, 24 randomized, 13 completed all study procedures and 8 are enrolled.

  Database architecture is complete, time 1 data has been entered for participants through Block 3, with the exception of neurological measures pending scoring.

Task 4: Conduct Phase II RCT WtoH intervention and complete Time 2 data collection

- RCT WtoH intervention complete; Time 2 data collected for all participants; Time 2 data entered in database (Q2-Q8: **In Progress**)

  Progress: WtoH Blocks 1-5 participants have passed the time 2 data collection period. Block 6 time 2 data collection is pending. Database architecture is complete, and all time 2 follow-up data has been entered for participants through Block 3.

Task 5: Complete Time 3 data collection

- Time 3 data collected and entered in database; all data checked for accuracy (Q2-Q8: **In Progress**)

  Progress: WtoH Blocks 1-4 participants have passed the time 3 data collection period. Block 5 and Block 6 time 3 data collection is pending.

Database architecture is complete, and all time 3 follow-up data has been entered for participants through Block 3.

Task 6: Evaluate treatment adherence

- FRS scores generated and feedback provided to clinicians (Q2-Q8: **In Progress**)
  Progress: All 3 WtoH study clinicians have passed the FRS checks for their initial RCT groups, and feedback has been provided to each clinician. Further sessions may be listened to as needed per study protocol.

Task 7: Analyze quantitative and qualitative data

- Data analyzed and results interpreted (Q7-Q8: **In Progress**)
  Progress: WtoH Pilot group acceptability and feasibility data has been analyzed and interpreted. RCT data analysis is pending due to ongoing recruitment and data entry.

Task 8: Disseminate findings

- Findings disseminated through: presentations at scientific conferences; submission of manuscripts for publication; study information posted on MIRECC website (Q7-Q8: **In Progress**)
  Progress: Cross-cultural adaptation, pilot results, and RCT progress have been presented at multiple scientific conferences, a manuscript on the cross-cultural adaptation and pilot results is in progress, and study information has been posted on MIRECC website.

Task 9: Submit final research progress and fiscal reports

- Final reports successfully submitted (Q7-Q8: **Pending**)
  Progress: Final reports are pending due to ongoing recruitment.

PST-SP PILOT

Task 1: Train study therapists in the delivery of problem solving therapy for suicide prevention

- Study therapists read relevant literature and available treatment manuals; attend supervised training with experienced PST providers. (Q3-Q5: **Complete**)

Task 2: Adapt PST treatment manual for acceptability and feasibility among veteran population

- Revise existing PST treatment manual to focus on suicide prevention in a Veteran/Military population with a history of traumatic brain injury. (Q4-Q5: **In Progress**)
  Progress: The PST manual is being developed through a collaborative process among the research team and the PST trainers. Content continues to draw from the resources above. A draft of the manual to be piloted in the feasibility trial is almost complete.

Task 3: Enroll 24 participants across 8 groups

- 24 participants recruited and Time 1, 2, 3 assessments completed along with attendance data. (Q5-Q8: **Pending**)
  Progress: PST-SP for TBI pilot participant recruitment has not commenced pending completion of the pilot treatment manual and IRB approval. The

relevant IRB documents have been submitted and are currently under review for approval.

Participant recruitment and data collection

WtoH RCT Group Recruitment:

476 potential participants expressed interest and screened for RCT Groups

- 443 did not meet inclusion criteria
- 33 met inclusion criteria
- 30 enrolled in RCT

RCT Group Data Collection:

Time 1 assessment data has been collected for 30 participants (some baseline interviews were terminated early and have incomplete data due to participant not meeting eligibility criteria during the Time 1 assessment).

Attendance data has been collected for Block 1-4 participants, attendance data has been collected for Block 5 intervention group, and is in progress for Block 5 waitlist group participants and Block 6 intervention group participants, and attendance data is pending for Block 6 waitlist groups.

Time 2 follow-up assessment data has been collected for Block 1-5 participants. Time 3 follow-up data has been collected for Block 1-4 participants. Time 2 and Time 3 follow-up assessment data for remaining participants is pending.

Publications, Presentation and Other Deliverables:

Brenner LA. Exploring the link between suicide and TBI, Interview with Voelker R of the APA Monitor Vol 43, No. 11, 2012 Dec.

Brenner LA. Mental Health Needs of those with TBI. *5th Annual Conference Brain Injury Association of Kansas: Beyond Rehab: Succeeding at Life*. 2013 Mar 7-8; Kansas City, Kansas.

Brenner LA. Rehabilitation Psychology and Suicide Prevention: Evidence-Based Assessment and Treatment Strategies. *15th Annual Conference Rehabilitation Psychology: Expanding the Boundaries of Rehabilitation Psychology*. 2013 Feb 21-24; Jacksonville, Florida.

Brenner LA. White Paper Response at Request of COL Castro (MOMRP/DOD), on Window to Hope: Evaluating a Psychological Treatment for Hopelessness among Veterans with TBI. 2011 Dec 15.

Brenner LA, Simpson GK, Matarazzo B, Signoracci G, Forster J, Clemans T, Hoffberg A. Cross-Cultural Adaption, Feasibility, and Acceptability of the Window to Hope Program among US Veterans with Traumatic Brain Injury (TBI): A Pilot Study. *1st International Academy for Suicide Research, World Congress on Suicide: From Research to Practice*. 2013 Jun 10-13; Montreal, Quebec.

Brenner LA, Simpson GK, Matarazzo B, Signoracci G, Forster J, Clemans T, Hoffberg A. Window to Hope: Evaluating a Psychological Treatment for Hopelessness among Veterans with Traumatic Brain Injury. *46th Annual Conference American Association of Suicidology: Challenging our Assumptions and Moving Forward Together*. 2013 Apr 24-27; Austin, Texas.

Brenner LA, Simpson GK, Matarazzo B, Signoracci G, Forster J, Clemans T, Hoffberg A. Window to Hope: A Psychological Treatment for Hopelessness among Veterans with TBI. *121st Annual Convention American Psychological Association*. 2013 Jul 31 – Aug 4; Honolulu, Hawaii.

Matarazzo B, Clemans T, Signoracci G, Hoffberg A, Simpson GK, Brenner LA. Cross-Cultural Adaptation of Window to Hope: A Psychological Intervention to Reduce Hopelessness in Individuals with a History of Traumatic Brain Injury. *To be submitted to Brain Injury.*

Simpson GK, Brenner LA, Matarazzo B, Signoracci G, Harwood J, Clemans T, Hoffberg A. Testing the fidelity and acceptability of the Window to Hope program among US veterans with traumatic brain injury: A pilot study. *7th Annual Research and Teaching Showcase, Ingham Institute for Applied Medical Research*. 2012 Nov 30; Liverpool Hospital, Australia.

Simpson GK, Brenner LA, Matarazzo B, Signoracci G, Harwood J, Clemans T, Hoffberg A. Testing the fidelity and acceptability of the Window to Hope program among US veterans with traumatic brain injury: A pilot study. *7th International Conference on Social Work in Health and Mental Health: Pathways to Client-Centred Care.* 2013 Jun 23-27; Los Angeles, California.

A6 Suicide Risk Assessments within Suicide-Specific Group Therapy Treatment for Veterans: A Pilot Study
Lori Johnson, Ph.D. & David Jobes, Ph.D.

Task 1: Hire and train study staff. (Year 1 Months 1-3)

1a: RRVAMC PI and CO-I, recruit, select, and hire study staff – **Complete**

1b: RRVAMC PI and Co-I ensure all study staff complete VAMC human subjects and IRB trainings (Year 1 Month 2) – **Complete**

1c: CUA and UW Co-Is train all RRVAMC staff in study policies and procedure and administering study assessments. (Year 1 Month 2) - **Complete**

1d: RRVAMC staff begins recruitment and initial assessment procedures for pilot cases. Staff consults with CUA and UW Co-Is and Denver VA MIRECC consultant concerning effectiveness of recruitment procedures and initial assessment. Research team develops adaptations as needed prior to test cases. (Year 1 Month 3) – **Complete**

1e: Experimental and control groups begin pilot cases. Team consults with Co-Is for effectiveness of procedures and adaptations as needed prior to test cases. (Year 1 Month 3) – **Complete**

Task 2: Data Collection. (Year 1 Month 4 – Year 2 Month 12)

2a: RRVAMC staff recruits study participants and assures fast and efficient randomization to study conditions. (Year 1 Month 4 – Year 2 Month 9) **– In Progress**

2b: Groups run. (Year 1 Month 4 – Year 2 Month 12) **– In Progress**

2c: RRVAMC staff members complete group entry assessment and follow-up assessments at 1 month, and 3 months. (Year 1 Month 4 - Year 2 Month 12) – **In Progress**

2d: CUA and UW Co-Is provide feedback and supervision to RRVAMC group co-leaders (Year 1 Month 4 – Year 2 Month 12) **- In Progress**

2f: Denver VA MIRECC consultant provides consultation on difficult cases, study issues, and data collection and management as issues arise. (Year 1 Month 1 through Year 3 Month 3) **– In Progress**

2g: In accordance with Military Suicide Research Consortium (MSRC) standard operating procedure (Attachment CC), the PI and UW Co-I establish final database systems and data entry and cleansing procedures appropriate to data collected. All data will be collected by RRVAMC staff in accordance with the highest of HIPAA, VA, and MSRC standards. All data will be entered and maintained according to the strictest of HIPAA, VA, and MSRC standards. Data entry and management occurs on an ongoing basis. (Year 1 Month 3 through Year 3 Month 3)**- In Progress**

Task 3: Hiring and training of replacement staff, if needed.

3a: PI provides study training to any replacement staff, to assure sufficient flow through clinical trial (any time between Year 1 Month 3 and Year 2 Month as needed). –**Complete (unless needed)**

Task 4: Data analysis and dissemination of results.

4a: Data analysis. (Year 3 Months1-3) **- In Progress**

4b: Presentations, reports, and publications reflecting analyses will be prepared. (Year 3 Months1-3) **- In Progress**

Other Progress:

In this quarter we plan to submit a request to IRB/HRPO to obtain more subjects than our originally projected number of 114. We will start by asking for 31 extra subjects to replace the 29 pilot subjects and 2 subjects whose data will not count due to procedural issues, resulting in an overall grand total goal of 145 subjects. However, if we stay on track with recruiting these, we plan to request additional subjects later in the project so that we will be able to increase power to analyze our secondary outcomes (as original power calculations were only based on the primary outcomes).

With the addition of new research assistants, it is our goal in this quarter (in addition to maintaining our current recruitment and follow-up) to catch up on data entry. We have 84 subjects at this time. The main goal will be to get baseline and 1 month follow-up packets for each of these individuals entered by the end of the quarter.

Dr. Lori Johnson (PI) attended the Research Training Institute at the University of Rochester in Rochester, NY in May 2013. Dr. Johnson, Dr. Steve Bliss (group leader), and Barbara Kaminer (co-investigator and group leader) attended the Aeschi West Conference in Vail, CO in May/June 2013. At both of these venues, we were able to share our work on this project with other professionals in the field of suicide and suicide prevention. We are in the process of writing a manuscript explaining the background of the development of the groups in which this assessment project is being conducted. We are also planning at least two AAS conference submissions related to this project.

A7 Toward a Gold Standard for Suicide Risk Assessment for Military Personnel
Peter M. Gutierrez, Ph.D. & Thomas Joiner, Ph.D.

Task 1. Hire and train staff (timeframe, months 1-4):

1a. Hire and train project coordinators at MIRECC and FSU (timeframe, months 1-2) - Complete

Project Coordinators for both sites were hired and trained on study procedures.

1b. Hire and train site assessors (timeframe, months 3-4) - In Progress

Site Assessors for Ft. Campbell and NMCP have been identified and contingency offers have been made and accepted. Once the site visits have been finalized at Ft. Campbell and NMCP, official start dates will be set for the SAs. The full time Site Assessor at Andrews has started and been fully trained on study procedures. New qualified candidates are being identified and interviewed to fill the part time position at Andrews.

Task 2. Begin and complete baseline data collection; start longitudinal tracking (timeframe, months 4-24):

2a. Begin baseline data collection (timeframe, month 4) – expected to begin by January 2014, month 27.

2b. Continue and complete baseline data collection (timeframe, months 4-24).

2c. Begin longitudinal tracking (timeframe, months 4-24).

Publications and Presentations

September 12, 2013: Dr. Pete Gutierrez presented at Joint Base Andrews. This presentation was done during the Joint Base Andrews site visit. The presentation's purpose was to explain the study to the referring clinicians and provide background on the study.

Other Progress

In addition to training project coordinators, military installations have been identified and agreed to participate in our study.

- Naval Medical Center Portsmouth, Site PIs Dr. Douglas Knittel & Dr. Peter McGowan
- Andrews Air Force Base, Site PIs Major Katie Kanzler & Dr. Jen Bodart
- Fort Campbell, Site PIs Dr. Joseph Wise & Dr. Leif Lelone

At NMCP: The CRADA and DSAA have been fully executed. NMCP IRB and HRPO have fully approved the study. The site visit is currently scheduled for October 27-28, 2013. Once the site visit and SA training is complete data collection will begin

At Joint Base Andrews: The Memorandum of Understanding (MOU) between Geneva and Andrews has been fully executed. The NMCP IRB as well as Uniformed

Services University of the Health Sciences (USUHS) IRB has approved the study. To receive the signed IRB approval letter a final signature from the Commanding Officer is needed. Once the Commanding Officer signs off the study will be submitted to HRPO for review. A site visit has been completed at Andrews. The full time site assessor has been fully trained. Data collection is expected to begin by mid-October.

At Fort Campbell: Dr. Wise received a signed letter of support from his Base Commander. The Collaborative Letter between Geneva and Ft. Campbell has been completed. The DUA is currently being review by Ft. Campbell's Privacy Officer. The study has been submitted to Dwight D. Eisenhower Army Medical Center (DDEAMC) IRB and NMCP IRB. Once we receive approval we will submit to HRPO.

Dr. Gutierrez is currently discussing possible collaboration with the Israel Defense Forces Suicide Prevention Team. Dr. Leah Shelef is an IDF psychologist currently running a study using the C-SSRS, BSS and SIS. Dr. Shelef has proposed adding the SHBQ and SBQ-R to their assessment study protocol in exchange for us adding the SIS to ours. This will allow us to combine data from the two studies and look at the predictive validity of the measures cross-nationally. The translations of measures from English to Hebrew have been completed. This collaboration stemmed from Dr. Gutierrez's presentation at the Shoresh conference at Ft. Detrick, MD in October 2012.

A8 Psychophysiology of Suicidal States: Temperamental and Physiologic Suicide Risk Assessment Measures and Their Relation to Self-Reported Ideation and Subsequent Behavior

Michael Allen, M.D. & Theresa Hernàndez, Ph.D.

Annual Report

Task 1: Regulatory Review/Approval –Complete

Received COMIRB and VA approval. HRPO final approval received July 8, 2013.

Task 2: Study Coordinator Hiring and Training – Complete

All administrative tasks on hiring and training were completed.

Task 3: Purchase and train on Equipment – Complete

The purchasing of equipment and training of study coordinator completed.

Task 4: Recruit, consent, and enroll participants, and complete data acquisition through the 6-week follow-up.

Participant recruitment initiated; enrollment into study after consent and ongoing data acquisition through 6-week follow-up.

This study will be closing as of 10/01/2013: The one participant who was enrolled will be notified of closure of the study, and no further contact will be initiated.

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Research report

Sleep problems outperform depression and hopelessness as cross-sectional and longitudinal predictors of suicidal ideation and behavior in young adults in the military ☆

Jessica D. Ribeiro [a], James L. Pease [b,1], Peter M. Gutierrez [b,1], Caroline Silva [a], Rebecca A. Bernert [c], M. David Rudd [d], Thomas E. Joiner Jr. [a,*]

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ABSTRACT

Background: Sleep problems appear to represent an underappreciated and important warning sign and risk factor for suicidal behaviors. Given past research indicating that disturbed sleep may confer such risk independent of depressed mood, in the present report we compared self-reported insomnia symptoms to several more traditional, well-established suicide risk factors: depression severity, hopelessness, PTSD diagnosis, as well as anxiety, drug abuse, and alcohol abuse symptoms.

Methods: Using multiple regression, we examined the cross-sectional and longitudinal relationships between insomnia symptoms and suicidal ideation and behavior, controlling for depressive symptom severity, hopelessness, PTSD diagnosis, anxiety symptoms, and drug and alcohol abuse symptoms in a sample of military personnel (N = 311).

Results: In support of a priori hypotheses, self-reported insomnia symptoms were cross-sectionally associated with suicidal ideation, even after accounting for symptoms of depression, hopelessness, PTSD diagnosis, anxiety symptoms and drug and alcohol abuse. Self-reported insomnia symptoms also predicted suicide attempts prospectively at one-month follow up at the level of a non-significant trend, when controlling for baseline self-reported insomnia symptoms, depression, hopelessness, PTSD diagnosis and anxiety, drug and alcohol abuse symptoms. Insomnia symptoms were unique predictors of suicide attempt longitudinally when only baseline self-reported insomnia symptoms, depressive symptoms and hopelessness were controlled.

Limitations: The assessment of insomnia symptoms consisted of only three self-report items. Findings may not generalize outside of populations at severe suicide risk.

Conclusions: These findings suggest that insomnia symptoms may be an important target for suicide risk assessment and the treatment development of interventions to prevent suicide.

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"In the states of depression in spite of great need for sleep, it is for the most part sensibly encroached upon; the patients lie for hours, sleepless in bed, … although even in bed they find no refreshment." Emil Kraepelin (1921)

1. Introduction

If asked to list the top few warning signs for imminent suicidal behavior, relatively few mental health professionals – even experienced ones; indeed even specialists – would list insomnia. But perhaps should, as mounting evidence makes clear (Ağargün and Cartwright, 2003; Bernert et al., 2005; Fawcett et al., 1990; Krakow et al., 2011; Turvey et al., 2002; Wojnar et al., 2009). Here, we extend this evidence by documenting robust links between sleep problems and suicidality, both cross-sectionally and longitudinally, and both with regard to suicidal ideation and suicidal behavior. Crucially, in all cases, we show that the links between sleep problems and suicidality exist beyond the involvement of factors mental health professionals *would* list as among the top few clinical risk indices for suicidality—namely, depression, hopelessness, PTSD, anxiety, and drug and alcohol abuse (Beck et al., 1990; Nock et al., 2010; Oquendo et al., 2002, 2004).

2. Why would sleep problems be involved in suicidality?

In the moments before their deaths, suicide decedents are almost never described by others as "sluggish" or "slowed down" – a perhaps surprising fact given the well-known association between depression – which can certainly slow people down – and suicidality. How are they usually described then? Descriptors of severe anxiety and terms such as "agitated," "on edge," and "keyed up" come up quite regularly (Busch and Fawcett, 2004; Hall et al., 1999). If others are queried about the days and nights preceding the death, another term is likely to surface: "sleepless" (Hall et al., 1999; McGirr et al., 2007; Tanskanen et al., 2001).

Suicide is inherently difficult because it requires overcoming basic self-preservation instincts (Joiner, 2005). This may be one factor that contributes to why decedents, in the moments before death, are rarely viewed as "sluggish" and are frequently viewed as "keyed up." Those whose death by suicide is imminent are physiologically aroused (Busch and Fawcett, 2004; Busch et al., 2003; Hall et al., 1999); were they not, something as daunting as death would likely be too difficult to enact. Indeed, many of them are physiologically *overaroused* (Busch and Fawcett, 2004; Busch et al., 2003; Kovasznay et al., 2004).

This state of overarousal appears to be a higher-order, underlying substrate with several manifest indicators, including various aspects of agitation and sleep disturbance. The focus in the current study is insomnia, which, for the purposes of this investigation, refers to a difficulty initiating or maintaining sleep that results in daytime consequences (e.g., fatigue). In this context, insomnia may be understood as one indicator of a psychological overarousal, which in turn may be associated with elevated risk for acute death by suicide. The emphasis of the current project is placed on insomnia not only because it is believed to be a key indicator of the overarousal, but also because it may be a clinically modifiable risk factor (Fawcett et al., 1990); furthermore, it is a topic many patients may be more likely to discuss with clinicians, in contradistinction to topics like suicidality and depression (Britt et al., 2008; Green-Shortridge et al., 2007; Hoge et al., 2004).

It is important to emphasize that the mechanisms underlying the relationship between insomnia symptoms and suicide remain unclear and under-researched. The overarousal hypothesis is offered as one potential explanation; however, there are a number of other possible explanatory pathways that might account for the link. Of note, there is some evidence to suggest that insomnia symptoms may impair decision making (Killgore et al., 2006), impulsivity (Schmidt et al., 2010), and exacerbate mood symptoms (Baglioni et al., 2010)—all of which may serve to mediate the relationship between insomnia symptoms and suicidal ideation and behavior.

3. Past research on sleep problems and suicidality

Despite the lack of theoretical research on why sleep would be associated with suicide risk, a growing body of evidence suggests that disturbed sleep may constitute an important, modifiable risk factor for suicide. Multiple sleep problems appear to predict elevated risk for suicide including insomnia, poor sleep quality, and nightmares (Ağargün and Cartwright, 2003; Ağargün et al., 1998; Bernert et al., 2005; Fawcett et al., 1990; Tanskanen et al., 2001). Supporting the construct validity of this association, this effect has been demonstrated controlling for depression, across diverse populations (*clinical, nonclinical*; Bernert et al., 2005, 2008), designs (*longitudinal, cross-sectional; epidemiologic, psychological autopsy studies*; Bernert et al., 2005; Bernert et al., 2007; Goldstein et al., 2008; Sabo et al., 1991), assessment techniques (*objective, subjective sleep indices*; Bernert et al., 2005; Goldstein et al., 2008; Sabo et al., 1991) and outcome measures (*suicide ideation, suicide death*; Ağargün et al., 1997a; Barraclough and Pallis, 1975; Bernert et al., 2007).

Of specific sleep disturbances that may increase suicidality, insomnia and its attendant fatigue have received the most research attention, but even so, there remain important research questions to address. Cross-sectionally, insomnia has repeatedly been linked to greater levels of suicidal ideation (Ağargün et al., 1997a; Barraclough and Pallis, 1975) even after controlling for depressive symptoms (Bernert et al., 2005, 2009; Chellappa and Araújo, 2007), and suicidal behavior (Goldstein et al., 2008; Sjöström et al., 2007). Longitudinal studies (though few) provide even more compelling evidence, indicating that insomnia emerges as a significant predictor of later suicidal ideation (McCall et al., 2010) and death by suicide (Fawcett et al., 1990; Fujino et al., 2005; Turvey et al., 2002).

4. The present study

In the current study, the literature on insomnia and suicidality is built upon. As can be discerned in Table 1, studies conducted to date vary considerably in terms of whether they examine suicidal ideation, behavior, or death by suicide as outcomes, whether they consider depression or other covariates, whether their assessment approach included multimethod features, and whether their designs incorporated cross-sectional or longitudinal elements. As Table 1 shows, no study did all of these. The present study is the first to do

Table 1
Past research on insomnia and suicidality.

	Dependent variable			Control variable		Design	
	Ideation	Behavior	Assessment method	Depression	Other	Cross-sectional	Longitudinal
Barraclough and Pallis (1975)		X	Suicide death			X	
Fawcett et al. (1990)		X	Suicide death				X
Ağargün et al. (1997a)	X		Schedule for Affective Disorders and Schizophrenia (SADS) Suicide Subscale			X	
Ağargün et al. (1997b)	X		SADS Suicide Subscale			X	
Turvey et al. (2002)		X	Suicide death				X
Smith et al. (2004)	X		Beck Depression Inventory (BDI)—Item 9	X		X	
Bernert et al. (2005)	X		Beck Scale for Suicidal Ideation (BSS)	X		X	
Fujino et al. (2005)		X	Suicide death				X
Ağargün et al. (2007)		X	Suicide attempt			X	
Chellappa and Araújo (2007)	X	X	Scale for Suicide Ideation (SSI)		X_a	X	
Sjöström et al. (2007)		X	Suicide Assessment Scale (SAS)			X	
Bernert et al. (2009)	X		BSS	X	X_b	X	
Wojnar et al. (2009)	X	X	The World Health Organization (WHO) Composite International Diagnostic Interview (CIDI)	X	X_c	X	
McCall et al. (2010)	X		SSI		X_d		X
Krakow et al., (2011)	X		Depressive Symptoms Inventory—Suicide Subscale (DSI-SS)	X		X	
Current study	X	X	Modified Scale for Suicidal Ideation (MSSI)	X	X	X	X

Note. a—controlled for antidepressant and hypnotic medication use; b—controlled for presence vs. absence of mental disorder and symptom severity; c—controlled for presence vs. absence of mental disorder, chronic health problems, and demographics; d—controlled for age, gender, treatment status, and baseline suicidality.

so. In addition, it is the first study to our knowledge that evaluates sleep disturbance in association with suicide risk in a military population.

Using archival data of a sample of young adults in the military referred for suicidality, the cross-sectional associations at baseline between insomnia symptoms and interviewer-assessed suicidal ideation are examined, controlling for hopelessness, depression, PTSD diagnosis, anxiety, drug abuse and alcohol abuse. A substantial subset of the participants was assessed one month later, allowing for the examination of longitudinal associations, between insomnia symptoms and suicidal ideation and behavior.

5. Method

5.1. Participants

Participants for this study included 311 individuals (255 men [82%]; 56 women), evaluated as they entered a study on the efficacy of treatments for suicidal young adults (Rudd et al., 1996). All participants were referred for severe suicidality from two outpatient clinics, an inpatient facility, and an emergency room. All facilities were affiliated with a major U.S. Army Medical Center. Approximately 40% had a diagnosis of major depressive disorder, 15% had a bipolar spectrum diagnosis (i.e. Bipolar I Disorder, Bipolar II Disorder, Cyclothymic Disorder, and Bipolar Disorder-Not Otherwise Specified), 13% had anxiety disorders, 5% had been diagnosed with a schizophrenia spectrum disorder, 20% had co-morbid post-traumatic stress disorder (PTSD), and about 20% had a co-morbid substance use disorder. The total number of diagnoses averaged approximately three. Diagnoses were assigned using a computerized version of the Diagnostic Interview Schedule (Blouin et al., 1988). Average age was 22.19 (SD = 2.77). Sixty percent was Non-Hispanic White; 25.3% was African-American; 10.5% was Hispanic; 1.5% was Native American; 1.2% was Asian-American or Pacific Islander; ethnicity was not classified for the remaining 1%. Forty-four percent was single; 37% was married; 10% was separated; 7% was divorced; 1% was widowed. Further details regarding the military experience of the sample (e.g., length of service, active duty status) are unavailable. Given the alarming increase in death by suicide in the military with close to 300 suicide deaths in active-duty military in 2009 alone (Luxton et al., 2009), the relevance and importance of the topic of the current study are difficult to overstate.

Of the 311 participants evaluated upon entry to the study, 239 were re-evaluated one month later. There were no differences on study variables between those who did and did not return except that those who did not return had slightly more suicidal ideation at baseline than those who did return (correlation between return/not and suicidal ideation was .12, $p < .05$).

5.2. Procedures

All participants provided full, informed, and written consent for research participation and were thoroughly clinically evaluated at pre-treatment (i.e., "baseline" assessment). All patients were offered rigorous treatment and were randomly-assigned to a problem-solving treatment or treatment-as-usual (as described by Rudd et al., 2000). A follow-up assessment was conducted post-treatment, one month after baseline. Interviews and administration of measures were conducted by clinical staff. Refer to Rudd et al., 1996 for more detailed information on procedures.

5.3. Measures

5.3.1. Insomnia symptoms

Assessed at both baseline and follow-up, the insomnia symptom index consisted of three items: Beck Depression Inventory (BDI; Beck et al., 1961) Items 16 (sleeplessness) and 17 (fatigue), as well as Suicide Probability Scale (SPS; Cull

and Gill, 1982) Item 33 (fatigue and listlessness). The BDI and SPS items are rated on a 0-to-3 rating scale. Scores on the insomnia symptom index could range from 0 to 9, with higher scores indicating greater symptom severity. Of note, BDI items 16 and 17 have been used in past literature as an index of sleep symptom severity (e.g., Perlis et al., 1997). Moreover, the use of a brief index has precedence in the literature on suicide risk. For example, the four-item Suicide Behaviors Questionnaire-Revised (SBQ-R; Osman et al., 2001) is psychometrically sound. The same can be said of the four-item Depressive Symptom Index-Suicidality Subscale (Metalsky and Joiner, 1997) and of the four-item P4 screener (Dube et al., 2010).

At baseline, the coefficient alpha of these three items was adequate at .71 and at follow-up was .76. As would be expected for a phenomenon that has episodic and state-like qualities (Buysse et al., 2010; Perlis et al., 1997; Vallières et al., 2005), the test–retest coefficient for the insomnia symptom index was in the moderate range ($r = .44$, $p < .01$). Test–retest coefficients in the moderate range are the norm for validated indices of insomnia, when the test–retest interval is three weeks or longer (as in the present study). For instance, in a sample of 50 undergraduates selected into a separate study for the presence of suicidal ideation, test–retest of the Insomnia Severity Index (Morin, 1993) over the course of three weeks was .41, $p < .05$ (Bernert and Joiner, in preparation).

Regarding validity, in approximately 200 undergraduates who completed the BDI and the Insomnia Severity Index for a separate study (Ribeiro et al., in press), the correlation between the composite of BDI Items 16 and 17 and ISI scores was .60, $p < .01$ (the SPS was not available in this particular sample)—substantial considering that the reliability ceiling of the three-item index is in the range of .71–.76, and the ceiling for the composite of the two BDI items is lower. Similarly, in the undergraduate sample alluded to above, the average correlation across the three week study between the composite of the two BDI items and the Insomnia Severity Index was .61, $p < .05$.

The insomnia symptom index at baseline served as the main independent variable of interest in the prediction of suicidal ideation cross-sectionally and of both suicidal ideation and suicide attempt longitudinally. Also, analyses were conducted in which the insomnia symptom index at follow-up served as the dependent variable and suicidal ideation served as a predictor, which allowed for examination of directionality of effects.

5.3.2. Modified Scale for Suicidal Ideation (MSSI; Miller, Norman, Bishop, & Dow, 1986)

The MSSI is an 18-item scale that is a designed to assess several aspects of suicidality. Each MSSI item was rated on a 0 to 3 scale; a total score of 11 or greater indicates clinical significance. Miller et al. (1986) have reported reliability coefficients and construct validity data for this measure (see also Clum and Yang, 1995).

5.3.3. Psychosocial history

This interviewer-rated form assessed demographic information and relevant personal history. The form administered at follow-up included a question on whether a suicide attempt had occurred since baseline. Of the 239 participants who returned for follow-up, ten reported suicide attempts between baseline and follow-up. We thus created a dichotomous variable (i.e. reflecting whether or not a suicide attempt occurred between baseline and follow-up), which served as a dependent variable in our longitudinal analysis predicting follow-up attempt status using the baseline insomnia symptom index, controlling for baseline suicidal ideation, depression, and hopelessness.

5.3.4. Millon Clinical Multiaxial Inventory (MCMI; Millon and Davis, 1997)

The original MCMI is a 175-item, true-false inventory. For the present purposes, the major depression, anxiety, alcohol abuse, and drug abuse subscales were used as covariates. The scales' reliability and validity appear to be adequate (Millon and Davis, 1997). The congruence of various versions of the MCMI scales has also been adequate (Marlowe et al., 1998). We use the depression subscale as measure of depression instead of the BDI to avoid contamination between predictor and dependent variables.

5.3.5. Beck Hopelessness Scale (BHS; Beck et al., 1974)

The BHS includes 20 true-false items that assess hopeless cognitions. The scale's reliability and validity have been supported (Metalsky et al., 1993). The BHS was used as a covariate; given that the BHS and the BDI share content and were developed by the same investigator, its use as a covariate in analyses involving our insomnia symptom index, also based in part on the BDI, may be considered a reasonably stringent data-analytic approach.

5.4. Data-analytic strategy

For cross-sectional analyses, we used multiple regression analyses, predicting MSSI suicidal ideation. The insomnia symptom index, BHS hopelessness scores, and MCMI depression scores were entered simultaneously as predictors. Recognizing viable covariates beyond depression and hopelessness, we also entered PTSD diagnosis, baseline MCMI anxiety scores, substance abuse, and alcohol abuse scores as control variables.

Regarding longitudinal analyses, a similar approach was used to evaluate whether the insomnia symptom index at baseline predicted MSSI suicidal ideation at follow-up, controlling for baseline MSSI, BHS, PTSD, and MCMI scores. To evaluate directionality, we conducted a similar analysis in which the insomnia symptom index and MSSI "switched places:" The dependent variable was the insomnia symptom index at follow-up, and predictors included baseline insomnia symptom index, MSSI, BHS, PTSD, and MCMI scores. Additional analyses involved a logistic regression examining the relation of baseline insomnia symptom index to a variable reflecting whether or not participants reported a suicide attempt occurring between baseline and follow-up. Baseline MSSI, BHS, MCMI anxiety, MCMI substance abuse, and MCMI alcohol abuse scores as well as PTSD diagnosis were controlled in these analyses.

6. Results

Means, standard deviations, and intercorrelations for all variables are presented in Table 2. Notably, symptom scores

Table 2
Means, standard deviations, and intercorrelations between all measures for study (N = 311 at Time 1, N = 239 at Time 2).

	1	2	3	4	5	6	7	8	9	10	11
1. Sleep—initial	–										
2. MSSI total—initial	.394**	–									
3. BHS total—initial	.553**	.488**	–								
4. MCMI major depression—initial	.338**	.297**	.375**	–							
5. MCMI anxiety—initial	.258**	.299**	.379**	.708**	–						
6. MCMI alcohol abuse—initial	.106	.154**	.060	.408**	.477**	–					
7. MCMI substance abuse—initial	.036	.027	−.226**	−.011	−.001	.544**	–				
8. PTSD	.231**	.200**	.131*	.131*	.204**	.184**	.096	–			
9. Sleep—1 month	.435**	.143*	.205**	.157*	.258**	.106	.036	.231**	–		
10. MSSI total—1 month	.274**	.315**	.225**	.142*	.119	.057	−.011	.148**	.303**	–	
11. Addtl suicide attempt—1 month	.135*	−.002	−.017	.022	.236	−.089	.001	.176**	.079	.264**	–
Mean	4.42	23.30	8.73	66.53	87.77	59.66	62.55	.23	2.83	5.98	.04
SD	2.67	10.42	6.36	13.43	20.35	17.63	19.34	.42	2.30	9.77	.20

** Correlation is significant at the .01 level (2-tailed).
* Correlation is significant at the .05 level (2-tailed).

are elevated at baseline. For the insomnia symptom index, the mean score was 4.42 ($SD = 2.67$). Mean MSSI scores were also elevated ($M = 23.30$, $SD = 10.42$), as expected. Participants reported an average score of 8.73 ($SD = 6.36$) on the BHS, 66.53 ($SD = 13.43$) on the MCMI depression subscale, 87.77 (SD = 20.35) on the MCMI anxiety subscale at baseline, 59.66 (SD = 17.63) on the MCMI alcohol abuse subscale, and 62.55 (SD = 19.34) on the MCMI drug abuse subscale (scores above 65 are in the clinical range). Further, all symptom scores were significantly intercorrelated at baseline, and with the insomnia symptom index (M = 2.83, SD = 2.30) and MSSI ($M = 5.98$, $SD = 9.77$) at one-month follow-up, as anticipated. Additional suicide attempts at one month follow-up were positively correlated with sleep score at baseline ($r = .14$, $p < .05$), with MSSI total score at follow-up ($r = .26$, $p < .01$), as well as with PTSD diagnosis (r = .18, p < .01).

6.1. Cross-sectional analyses: does the insomnia symptom index predict MSSI suicidal ideation controlling for hopelessness, depression, PTSD, anxiety, and drug and alcohol abuse?

The answer to this question is yes. For this analysis, the insomnia symptom index, BHS, MCMI depression, anxiety, alcohol abuse and drug abuse scores, and PTSD diagnosis were entered simultaneously as predictors into a multiple regression equation, predicting MSSI. The insomnia symptom index emerged as a significant predictor of suicidal ideation, beyond the effects of hopelessness, depression, PTSD, anxiety, alcohol and drug abuse ($pr = .12$, $t\ [307] = 2.11$, $p < .05$). Hopelessness ($pr = .34$, $t\ [307] = 6.35$, $p < .001$) also emerged as a significant predictor of suicidal ideation, beyond the effects of the other rival covariates.

6.2. Longitudinal analyses: 1) Does the insomnia symptom index at baseline predict MSSI suicidal ideation at follow-up, controlling for baseline MSSI, and for hopelessness depression, PTSD, anxiety, and drug and alcohol abuse?

Here, too, the answer to this question is yes. A similar multiple regression approach as outlined above was used to evaluate whether the insomnia symptom index at baseline predicted MSSI scores at follow-up, controlling for baseline MSSI, BHS, PTSD, and MCMI depression, anxiety, drug abuse, and alcohol abuse scores. As would be expected, MSSI scores at baseline predicted MSSI scores at one-month follow-up ($pr = .19$, $t\ [234] = 2.97$, $p < .01$). Of the remaining predictors, only the insomnia symptom index evinced a significant longitudinal relationship to increased suicidal ideation at follow-up ($pr = .14$, $t\ [234] = 2.13$, $p < .05$). Hopelessness ($pr = .01$, $t\ [234] = 0.21$, $p =$ ns), depression ($pr = .03$, $t\ [234] = .39$, $p =$ ns), PTSD ($pr = .09$, $t\ [234] = .1.31$, $p =$ ns), anxiety ($pr = .12$, $t\ [234] = -.69$, $p =$ ns), drug abuse ($pr = -.01$, $t\ [234] = -.07$, $p =$ ns), and alcohol abuse ($pr = -.03\ 3$, $t\ [234] = -.38$, $p =$ ns) failed to do so.

6.3. Longitudinal analyses: 2) The question of directionality: Does MSSI suicidal ideation at baseline predict the insomnia symptom index at follow-up, controlling for baseline insomnia symptoms, and for hopelessness, depression, PTSD, anxiety, and drug and alcohol abuse?

No. To evaluate directionality, analyses were conducted in which the dependent variable was the insomnia symptom index at follow-up, and predictors included the insomnia symptom index at baseline, and baseline MSSI, BHS, PTSD diagnosis, MCMI depression, anxiety, drug abuse, and alcohol abuse scores.

Baseline suicidal ideation did not predict insomnia symptom scores at follow-up, controlling for baseline insomnia symptom scores ($pr = -.07$, $t\ [234] = -1.09$, $p =$ ns). This suggests that the longitudinal association between insomnia symptoms and suicidal ideation flows from insomnia symptoms to suicidal ideation.

6.4. Longitudinal analyses: 3) does the insomnia symptom index at baseline predict suicide attempts occurring between baseline and follow-up, controlling for baseline MSSI, and for hopelessness, depression, PTSD, anxiety, and drug and alcohol abuse?

Not quite. In a logistic regression equation controlling for baseline MSSI, BHS, PTSD MCMI depression, anxiety, drug and alcohol abuse scores, baseline insomnia symptom index scores were used as a predictor of suicide attempt status at follow-up. The insomnia symptom index emerged as a non-significant trend predicting a suicide attempt at follow-up (exponentiated beta [Exp(B)], which is an index of effect

size, was 1.33; Wald coefficient = 2.68, $p = .10$). Only PTSD (Exp(B) = 6.71; Wald coefficient = 5.83, $p < .05$) and MCMI alcohol abuse (Exp(B) = .92; Wald coefficient = 6.22, $p < .05$) emerged as significant predictors of subsequent suicide attempt. Although the effect of insomnia was not significant in this analysis, it is important to highlight that this was within the context of controlling for very robust predictors of suicidal behavior and, even then, the effect approached significance.

Of note, in a separate logistic regression when baseline insomnia symptom index scores were entered as a predictor of later suicide attempt, controlling for MCMI depression and BHS hopelessness scores, insomnia symptom index showed a significant longitudinal relationship to suicide attempt at follow-up (exponentiated beta [Exp(B)] = 1.45; Wald coefficient = 6.28, $p < .01$). Neither baseline suicidal ideation (Exp[B] = 0.98; Wald coefficient = 0.19, p = ns), hopelessness (Exp[B] = 0.91; Wald coefficient = 1.64, p = ns), nor depression (Exp[B] = 1.00; Wald coefficient = 0.01, p = ns) performed similarly.

7. Discussion

The current study's findings converge with a growing body of research, indicating a relationship between sleep disturbance and suicidality (Goldstein et al., 2008; Goodwin and Marusic, 2008; Keshavan et al., 1994; Liu, 2004; Sabo et al., 1991; Sjöström et al., 2007). This link has been reported in both clinical (Ağargün and Cartwright, 2003; Bernert et al., 2005; Sabo et al., 1991) and nonclinical population-based samples (Fujino et al., 2005; Goodwin and Marusic, 2008; Turvey et al., 2002) regarding suicidal ideation, suicide attempt, and death by suicide.

This investigation builds upon past findings by evaluating sleep problems as cross-sectional and longitudinal predictors of interviewer-assessed suicidal ideation and attempts, in direct comparison with depression, hopelessness, PTSD diagnosis, anxiety, drug and alcohol abuse, in a military sample. The present study revealed that insomnia symptoms served as a unique predictor of suicidal ideation assessed cross-sectionally, and for suicidal ideation and suicide attempt longitudinally (though the latter only held when controlling for only depression, hopelessness and baseline suicidal ideation, which are still strong predictors of death by suicide). This is a stringent test, given that depression is among the strongest predictors of suicide risk, and considering that insomnia and suicidality are symptoms of depression and highly associated with PTSD. An additional strength of this study was use of interviewer-assessed suicidal ideation and behavior. With a few exceptions (Bernert et al., 2005, 2009), the majority of past reports used single-item measures of suicidal ideation (Ağargün et al., 1997a, 1997b; Fawcett et al., 1990; Roberts et al., 2001).

This is also the first examination to our knowledge of such relationships in a military sample. There is some evidence that military status is associated with increased risk for suicide across cultures (Kim et al., 2006), and rates of suicide in the U.S. military have surged to record numbers in recent years (Kuehn, 2009; Lorge, 2011; US Army, 2011). The prevalence of sleep complaints appears significantly increased among military personnel when compared to civilians (Hoge et al., 2004; Neylan et al., 1998; Seelig et al., 2010), which does not appear to be explained by a PTSD diagnosis (Lewis et al., 2009).

The current study included limitations, which should be considered in interpreting the findings. The approach to the assessment of insomnia can be improved upon. One particular concern may be the construct validity of the insomnia symptom index as a measure of insomnia, as only one item indexes insomnia directly and the other two are assessments of fatigue. Although fatigue is highly associated with insomnia, it is also related to many other constructs as well (e.g., depression, physical illness, and eating disorders). Given the strong evidence base on sleep problems and suicidality, it would be reasonable to hypothesize that sleep problems are likely accounting for the effects. It is also important to note that analyses controlled for another strong potential confounding variable that is associated with fatigue, insomnia, and suicidality—namely, depressive symptoms. Therefore, future research using comprehensive self-report and objective measures of sleep problems is needed. In addition, findings involved relatively small effect sizes and did not examine potential variables (e.g., rumination, physiological effects of sleeplessness) that might mediate the results. Nevertheless, it should be emphasized that results conformed to stringent, a priori hypotheses, persisted after controlling for relevant variables, emerged within a multi-method assessment strategy, and were similar to – and in some cases exceeded – effects for variables with traditionally strong effects. It should also be acknowledged that the current findings may not be generalizable outside of a severe risk sample. However, studying a severe sample will likely serve to highlight the highly salient risk factors.

Importantly, the results do not diminish the importance of depression and hopelessness as indicators of increased suicide risk as much as they underscore the importance of sleep problems. Based on the present findings, incorporating sleep problems into suicide risk assessment may be clinically important and potentially enhance detection of at-risk military members as sleep disturbances are often easily detectable (Goldstein et al., 2008), in contrast to many other suicide risk factors (e.g., past suicide attempt history). Information regarding more traditional suicide risk factors provides a context for determining how much weight to place on sleep problems, which likely informs on-going risk assessment and treatment (Gutierrez et al., 2009).

Overarousal may be an overarching factor underlying the association between insomnia and suicidality, as absence of sleep may be an indicator of agitation. Though limited, there is an emerging body of literature that suggests agitation or overarousal is an acute risk factor for suicide (Busch and Fawcett, 2004; Busch et al., 2003; Kovasznay et al., 2004). In addition to literature directly examining the role of agitation per se, research on agitated-related constructs also provides some support for this hypothesis. Anxiety disorders, for instance, appear to confer additional risk to suicidal ideation and behavior in individuals with bipolar disorder as compared to both depressed patients and individuals who do not have a mood disorder (Dilsaver et al., 2006). Further research is needed to clarify how insomnia is related to suicidality and whether overarousal is the higher-order factor accounting for the relationship between sleep disturbance and suicide.

Impaired emotional processing is another possible explanatory pathway. Sleep restriction is associated with mood decrements and emotional volatility (Dinges et al., 1997; Leotta et al., 1997; Zohar et al., 2005). Dysregulated sleep has been found to predict mood lability and elevated suicidality (Bernert and Joiner, 2010)—and mood lability predicts suicidality when controlling for depression severity (Bronisch, 1992; Zlotnick et al., 1997). Future research should focus on examining whether overarousal, mood dysregulation, or their interaction may explain the relationship between disturbed sleep and suicidality.

In combination with the past literature on sleep disturbance and suicide, the present findings also suggest that evaluating the efficacy of sleep-focused interventions on suicidal symptoms may be promising. If found to be effective, sleep-focused interventions may be particularly important to consider in military populations, where stigma is well-documented and an obstacle to successful treatment implementation and mental health care utilization (Hoge et al., 2004). In stark contrast to mental health concerns, soldiers appear willing to seek help for sleep-related problems. Sleep problems are also common among active-duty military, especially while deployed (Peterson et al., 2008). The current findings converge with recent treatment trials showing that brief behavioral interventions for insomnia are associated with decreased depressive symptoms and suicidality post-treatment (Buysse et al., 2011; Manber et al., 2008, in submission; Morin et al., 2006, 2009; NIH Consensus Science Statements). The current findings combine with that of others to affirm the restorative power of sleep, and the potentially disastrous effects of its absence.

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Conflict of interest

All authors denied any possible conflict of interest with other people or organizations within 3 years of beginning the submitted work that could inappropriately influence the present research study.

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