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Childhood sexual abuse and adulthood mortality in veterans treated for combat-related PTSD

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Graduate School of Education and Psychology

CHILDHOOD SEXUAL ABUSE AND ADULTHOOD MORTALITY IN VETERANS TREATED FOR COMBAT-RELATED PTSD

A clinical dissertation submitted in partial satisfaction

of the requirements for the degree of

Doctor of Psychology

by

Caroline M. Kelly

August, 2011

David Foy, Ph.D. - Dissertation Chair Person

This clinical dissertation, written by

Caroline Marie Kelly

under the guidance of a Faculty Committee and approved by its members, has been submitted to and accepted by the Graduate Faculty in partial fulfillment of the requirements for the degree of

DOCTOR OF PSYCHOLOGY

Doctoral Committee:

David Foy, Ph.D., Chairperson

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I would like to thank some very special people for their support not only during the dissertation process but also throughout my entire graduate school experience. I would like to start by expressing my immense appreciation and gratitude to my dissertation chair, Dr. Foy. It was a pleasure working with you and I am incredibly grateful for all of your guidance, instruction, and support. I have so valued being a part of your research lab, and have grown significantly as researcher and a clinician as a result of my experiences working with you. I would also like to thank my dissertation committee members, Dr. Drescher and Dr. deMayo. Without your kindness, assistance, and support, this process would never have been possible.

I would also like to give a very special thanks to Kerri and Anna, my lab mates and dear friends. It has been an absolute pleasure working with you, and I have so appreciated your encouragement, collaboration, and friendship. I am very grateful to have had the opportunity to have worked with you and appreciate your encouraging me to keep my eye on the ball and to keep moving forward.

Finally, I would like to express my intense gratitude and appreciation to my family. Mom, Dad, and Erin, I could not have made it through graduate school and the dissertation process without your unwavering support. You have always stood by me and believed in me, and for that I cannot thank you enough. I am incredibly grateful for your love and support and will always be thankful for everything you have done for me.

Vita

CAROLINE M. KELLY, M.A.

EDUCATIONAL HISTORY

Pepperdine University, Los Angeles, CA
Doctoral of Psychology (Psy.D.) in Clinical Psychology, 2011 (anticipated completion)
Dissertation Title: Childhood Sexual Abuse and Adulthood Mortality in Veterans Treated for Combat-Related PTSD *(successfully defended in December 2010)*

University of North Carolina at Charlotte, Charlotte, NC

Master of Arts in Clinical and Community Psychology, 2006
Master's Thesis Title: Assessing Growth and Loss Using a Revised Posttraumatic Growth Inventory: An Investigation of the Use of a Paired Format to Assess Responses to Traumatic Events

University of Colorado at Boulder, Boulder, CO
Bachelor of Arts in Psychology, 2002, summa cum laude
Honors Thesis Title: Protection and Risk in Adolescent Sexual Experience: Psychological Correlates of Number of Sexual Partners

CLINICAL EXPERIENCE

July 2010-Present
Location: **Denver Veterans Administration Medical Center,** Denver, CO
Position: Psychology Intern

Posttraumatic Stress Disorder Rotation (3/1/11-Present)

- Co-facilitate a weekly Cognitive Processing Therapy (CPT) group for male veterans in a residential treatment program for combat-related PTSD
- Co-facilitate a weekly Seeking Safety group for veterans with combat-related PTSD
- Co-facilitate a weekly process group
- Provide brief individual therapy and case management
- Score and interpret PTSD-specific measures such as the CAPS, PCL-M, and Mississippi Scale for Combat-Related PTSD
- Serve as an active member of an interdisciplinary team

Inpatient Rotation (11/1/10-Present)

- Co-facilitate a weekly inpatient Acceptance and Commitment Therapy (ACT) group
- Co-facilitate a weekly Dialectical Behavior Therapy (DBT) group for veterans who have been psychiatrically hospitalized
- Co-facilitate a weekly inpatient process group
- Conduct brief individual therapy with veterans who have been psychiatrically hospitalized

- Conduct psychological, cognitive, and neurological assessments with veterans in an inpatient setting utilizing measures such as the MCMI, PAI, TAT, Rorschach, WMS-III, WAIS-III, and the TOMM

Mental Illness Research, Education, and Clinical Centers (MIRECC) Rotation (11/1/10-Present)

- Conduct assessments with highly suicidal veterans and provide consultation to their providers regarding treatment recommendations
- Attend weekly clinical meetings
- Collaborate with members of a multi-disciplinary team

Evidence-Based Practices Training (7/1/10-Present)

- Provide weekly individual therapy to a male veteran with depression using an evidenced-based CBT protocol
- Conduct weekly individual therapy with a female veteran with depression using an evidenced-based ACT protocol
- Participate in weekly individual supervision

Recovery/Family Rotation (7/1/10-11/1/10)

- Co-facilitated a variety of recovery-oriented groups for veterans with severe mental illness
- Served as a recovery advisor for two veterans with serious mental illness
- Co- facilitated a weekly inpatient group on the principles of recovery
- Co-facilitated a weekly support group for veterans who were recently psychiatrically hospitalized
- Co-facilitated a weekly couple's communication group for veterans and their spouses
- Provided weekly couple's therapy to a veteran with PTSD and his wife using an Integrative Behavioral Couples Therapy (IBCT) approach
- Participated in weekly multidisciplinary team meetings

Multiple Sclerosis Rotation (7/1/10-11/1/10)

- Served on a multi-disciplinary team treating veterans with multiple sclerosis
- Conducted neuropsychological assessments with veterans with multiple sclerosis using measures such as the WMS-III, WAIS-III, CVLT-II, and COWAT
- Provided weekly individual therapy to a male veteran with multiple sclerosis

Didactics and Trainings

- Attend weekly didactics on topics such as PTSD, suicide risk assessment, relaxation, diversity, neuropsychological assessment, and clinical supervision

August 2009-June 2010

Location: **Long Beach Veterans Administration Medical Center,** Long Beach, CA

Position: Psychology Pre-Intern

PTSD and Chronic Pain Rotation (1/1/10-6/15/10)

- Provided individual therapy to male veterans with PTSD using a CBT approach
- Co-facilitated a weekly relaxation group using techniques such as progressive muscle relaxation, body scans, and guided imagery
- Co-facilitated a weekly pain management group for veterans with chronic pain
- Participated in weekly individual supervision

Assessment and Psychotherapy Rotation (8/17/09 - 12/31/09)

- Conducted psychological assessments with veterans in both inpatient and outpatient settings using measures such as the MMPI-2, MCMI-III, BDI-II, BAI, the PTSD Checklist, and the Mississippi Scale for Combat-Related PTSD
- Wrote integrated assessment reports for veterans with a diverse range of presenting issues
- Co-facilitated a weekly Acceptance and Commitment Therapy (ACT) group for veterans with a variety of mental health issues
- Provided individual therapy to a male veteran with social anxiety and a male veteran with schizophrenia utilizing a CBT approach
- Consulted with interdisciplinary teams

Didactics and Trainings

- Attended biweekly didactics on the treatment of PTSD

August 2008-July 2009
Location: **South Central Training Consortium,** Los Angeles, CA
Position: Therapist Extern

- Provided individual therapy to female survivors of domestic violence and sexual trauma utilizing a combination of cognitive-behavioral and humanistic approaches
- Facilitated a weekly domestic violence group for adult females and assisted group members in learning how to develop healthy relationships
- Provided individual therapy to formerly-homeless adult females with mental illness
- Conducted individual therapy with children from low-income families
- Collaborated with professionals from a variety of community agencies
- Provided clients with referrals to organizations within the community
- Attended weekly didactic trainings on providing services to underserved populations
- Participated in weekly individual and group supervision

September 2007-July 2009
Location: **Union Rescue Mission,** Los Angeles, CA
Position: Therapist Extern

- Conducted clinical interviews with homeless men and women in order to assess for substance-related issues and psychological disorders
- Developed individualized treatment plans to guide therapeutic interventions
- Conducted short-term and long-term individual therapy utilizing cognitive-behavioral and humanistic approaches
- Assisted clients in developing skills in coping, relaxation, relapse prevention, and anger management
- Regularly administered measures such as the BDI-II and the BAI in order to monitor clients' symptoms of depression and anxiety
- Attended a weekly personality assessment seminar on the MMPI-2 and the MCMI-III facilitated by Stephen Strack, Ph.D.
- Collaborated with representatives from a variety of community organizations
- Provided clients with referrals to a number of community agencies
- Participated in weekly individual and group supervision
- Attended didactic trainings on issues such as multicultural competence, substance-abuse, and suicide prevention

December 2007-September 2008
Location: **LAMP Community**, Los Angeles, CA
Position: Therapist Extern

- Co-facilitated a weekly dichos/proverbs group for formerly-homeless adults with severe mental illness living in downtown Los Angeles
- Attended weekly individual supervision

August 2006-August 2007
Location: **BI, Inc.,** Lakewood, CO
Position: Full-Time Therapist

- Facilitated a weekly Anger Management group for adults involved in the criminal justice system
- Conducted three weekly cognitive-behavioral outpatient substance abuse groups consisting of adults on parole or probation
- Facilitated two weekly outpatient groups for persons charged with Driving Under the Influence
- Conducted a weekly Moral Recognation Therapy group for individuals involved in the criminal justice system
- Collaborated with probation and parole officers in order to ensure adherence to court-mandated treatment requirements
- Submitted paperwork to the State of Colorado in accordance with state regulations
- Participated in weekly interdisciplinary meetings
- Attended weekly group supervision

August 2005-July 2006
Location: **W.G. Hefner Veterans Administration Medical Center**, Salisbury, NC
Position: Psychology Extern

- Facilitated a music therapy group for male veterans with schizophrenia
- Co-facilitated a weekly process group for inpatient clients with severe mental illness
- Completed psychological and cognitive assessments with veterans in an inpatient setting utilizing measures such as the MMPI-2, MCMI-III, PAI, and WASI
- Conducted individual therapy with male veterans, primarily from a cognitive-behavioral orientation
- Co-facilitated a trauma support group for male and female veterans who had experienced combat and/or military sexual trauma
- Co-facilitated a cognitive-behavioral group for male and female veterans presenting with a variety of mental health issues
- Co-facilitated a group for male and female veterans coping with depressive symptoms
- Co-facilitated a self-esteem group for female veterans who had experienced military sexual trauma
- Co-facilitated an anger management group for male and female veterans
- Participated in weekly case conferences and didactic trainings
- Attended weekly individual supervision

August 2003-July 2004
Location: **Excelsior Youth Center**, Aurora, CO

Position: Weekend Group Living Counselor

- Provided behavioral modification, crisis intervention, milieu management, and tutoring to female adolescents with mental illness living at a residential treatment facility
- Participated in regular trainings on crisis intervention

May 2003-August 2003
Location: **Excelsior Youth Center**, Aurora, CO
Position: Summer Recreation Counselor

- Implemented and supervised recreational activities for female adolescents with mental illness living at a residential treatment facility
- Provided behavioral modification, crisis intervention, and milieu management
- Attended weekly multidisciplinary meetings

August 2002-May 2003
Location: **HelpLine Crisis Hotline**, Boulder, CO
Position: Hotline Director

- Supervised and trained crisis hotline volunteers
- Organized monthly trainings on mental illness
- Facilitated weekly staff meetings
- Collaborated with mental health professionals in the Boulder, CO community
- Assembled information on mental health referrals and community resources
- Secured funding to ensure the continued operation of the organization

September 2000-May 2003
Location: **HelpLine Crisis Hotline**, Boulder, CO
Position: Telephone Counselor

- Supplied short-term crisis intervention to college students and community members calling with a variety of mental health concerns
- Provided callers with mental health referrals and information on community resources
- Participated in weekly staff meetings
- Attended monthly trainings on mental illness

SUPERVISORY EXPERIENCE

September 2009-June 2010
Location: **Pepperdine University,** Los Angeles, CA
Position: Pre-Doctoral Peer Supervisor

- Supervised two first-year doctoral students on their therapy cases by providing them with weekly individual supervision and by reviewing their clinical notes, reports, and case presentations
- Attended case conferences and provided first-year students with clinical supervision and feedback
- Attended a weekly supervision group for peer supervisors

RESEARCH AND TEACHING EXPERIENCE

November 2010 -present
Location: **VISN 19 Mental Illness Research, Education, and Clinical Center (MIRECC)**
Denver Veterans Administration Medical Center, Denver, CO
Position: Psychology Intern
Supervisor: *Peter Gutierrez, Ph.D.*

- Conduct qualitative research on suicidality among OEF/OIF veterans
- Transcribe and code interviews of female combat veterans
- Collaborate with members of an interdisciplinary team
- Attend weekly research team meetings
- Attend a monthly journal club in order to discuss research in the areas of TBI, PTSD, and suicidality

September 2007-present
Location: **Pepperdine University**, Los Angeles, CA
Position: Research Assistant and Lab Member, Trauma/PTSD Research Lab

Supervisor: *David Foy, Ph.D.*

- Attend weekly dissertation lab meetings
- Assist in conducting research on veterans with chronic combat-related PTSD
- Collaborate with dissertation committee member Kent Drescher, Ph.D., from the National Center for Posttraumatic Stress Disorder
- Transcribe research interviews
- Assist in coding data obtained from research interviews
- Conduct statistical analyses utilizing SPSS
- Assist with peer reviews of manuscripts submitted to journals such as *Archives of General Psychiatry* and *American Psychologist*

March 2009-June 2010
Location: **Pepperdine University,** Los Angeles, CA
Position: Graduate Teaching Assistant, Graduate School of Education and Psychology
Supervisor: *David Foy, Ph.D.*

- Aided the professor in grading assignments completed by students in a doctoral-level behavioral interventions class and students in a master's-level substance abuse class
- Assisted the professor in providing students with feedback on their assignments

January 2006-May 2006
Location: **University of North Carolina at Charlotte,** Charlotte, NC
Position: Graduate Teaching Assistant, Department of Psychology
Supervisor: *Ryan Kilmer, Ph.D.*

- Scored and corrected emotional assessments, such as the MMPI-2 and the Rorschach, completed by students in a master's-level personality assessment class
- Answered scoring-related questions posed by students in order to promote their understanding of emotional assessment

January 2006- May 2006
Location: **University of North Carolina at Charlotte,** Charlotte, NC
Position: Graduate Teaching Assistant, Department of Psychology
Supervisor: *Richard Tedeschi, Ph.D.*

- Aided the professor in scoring assignments completed by students in a master's-level therapy class
- Assisted the professor in providing feedback to students regarding their clinical skills
- Answered questions raised by students in order to further their knowledge of the therapeutic process
- Gathered teaching materials for the professor

August 2005-January 2006
Location: **University of North Carolina at Charlotte,** Charlotte, NC
Position: Graduate Teaching Assistant, Department of Psychology
Supervisor: *George Demakis, Ph.D.*

- Scored and corrected assessments completed by students in a master's-level cognitive assessment class including the WAIS-III, WISC-IV, and WJ-III
- Observed students conducting cognitive assessments and provided them with feedback regarding their clinical skills
- Assisted the professor in scoring exams completed by students in order to
- Answered questions posed by students in order to advance their understanding of cognitive assessment

August 2005- January 2006
Location: **University of North Carolina at Charlotte,** Charlotte, NC
Position: Graduate Teaching Assistant, Department of Psychology
Supervisor: *Lawrence Calhoun, Ph.D.*

- Assisted the professor in grading assignments completed by students in a master's-level psychopathology/therapy class
- Aided the professor in providing feedback to students regarding their clinical skills after watching videos of the students conducting therapy
- Answered questions raised by students in order to foster their comprehension of DSM-IV-TR diagnoses
- Assembled teaching materials for the professor

August 2000 – May 2001
Location: **University of Colorado at Boulder,** Boulder, CO
Position: Research Assistant, Department of Psychology
Supervisor: *Allison Lenton, Ph.D.*

- Conducted research on the impact of race on health care decisions
- Implemented research methodology and collected data from participants
- Entered data into an Excel spreadsheet for future analysis

ADDITIONAL PROFESSIONAL EXPERIENCE

August 2007 – June 2010
Location: **Pepperdine University,** Los Angeles, CA
Position: Graduate Assistant, Graduate School of Education and Psychology
Supervisor: *Cara Garcia, Ph.D.*

- Coordinated tutoring services for children in the Los Angeles community
- Created and updated databases with information on the needs of children in the community
- Returned phone calls and e-mails for the professor in order to assist the professor in coordinating services for children in need of tutoring

August 2004 – July 2006
Location: **University of North Carolina at Charlotte,** Charlotte, NC
Position: Graduate Assistant, Office of Disability Services
Supervisor: *JoAnn Fernald, M.A.*

- Assisted in coordinating academic accommodations and support for college students with disabilities
- Converted text from books and articles into an electronic format to enable students with visual impairments and learning disabilities to use a screen-reading program
- Updated and maintained various databases
- Provided clerical support services

PUBLICATIONS

Baker, J. M., **Kelly, C**., Calhoun, L. G., Cann, A., & Tedeschi, R. G. (2008). An examination of posttraumatic growth and posttraumatic depreciation: Two exploratory studies. *Journal of Loss and Trauma, 13 (5), 45-465.*

Drescher, K.D., Foy, D. W., **Kelly, C**., Leshner, A., Schutz, K., & Litz, B. (2011). An Exploration of the Viability and Usefulness of the Construct of Moral Injury in War Veterans. *Traumatology, 17, 8-13.*

POSTERS AND PRESENTATIONS

Jakle, K.R., Metz, S., Lovato, L.D., **Kelly, C**., Leshner, A., Drescher, K. , & Foy, D.W. (November 2008). *Forgiveness and depression in veterans with chronic combat-related PTSD.* Poster presented at the 24th Annual International Society for Traumatic Stress Studies Conference, Chicago, IL.

Kelly, C., Jakle, K.R., Leshner, A., Schutz, K., Burgoyne, M., Drescher, K.D., Foy, D.W (November 2009). *Adverse childhood experiences and religious coping styles in veterans with chronic combat- related PTSD.* Poster presented at the 25th Annual International Society for Traumatic Stress Studies Conference, Atlanta, GA.

HONORS &AWARDS

Honors: Summa Cum Laude, University of Colorado (2002)
Phi Beta Kappa Honor Society (2002)
Golden Key International Honor Society (2001)
Psi Chi, National Honor Society for Psychology (2000-2002)
Dean's List, University of Colorado (1999-2002)

Awards: Pepperdine Colleagues Grant (2007-2009)

CONFERENCES AND TRAININGS

December 2010
Involuntary Psychiatric Commitment
Denver, CO

September 2010
Avoiding Grievances and Other Legal Problems in Your Practice as a Colorado Psychologist
Denver, CO

November 2009
The 25th International Society for Traumatic Stress Studies Annual Meeting
Atlanta, GA

November 2008
The 24th International Society for Traumatic Stress Studies Annual Meeting
Chicago, IL

October 2008
"Trauma-Focused Cognitive-Behavioral Therapy" web-based learning course

February 2008
Reconsidering Trauma: Treatment Advances, Relational Issues, and Mindfulness in Integrated Trauma
Therapy
Woodland Hills, CA

PROFESSIONAL ASSOCIATIONS

American Psychological Association, Student Affiliate
California Psychological Association, Student Affiliate
Los Angeles County Psychological Association, Student Affiliate
International Society of Traumatic Stress Studies, Student Affiliate

ABSTRACT

Adverse childhood experiences, such as sexual abuse, have consistently been found to be associated with negative health-related outcomes in adulthood. Combat veterans with posttraumatic stress disorder (PTSD) may be at particular risk for such outcomes, as this population has been shown to report elevated rates of childhood sexual abuse. Research also suggests that combat veterans with PTSD are at increased risk for early mortality and behavioral causes of death, such as suicide, accidents, and homicide. However, despite the high rates of early mortality and childhood abuse among veterans with combat-related PTSD, to date, the relationship between these phenomena within this population has yet to be assessed. The current study examined the relationship between childhood sexual abuse and mortality in a sample of 1,866 male Vietnam-era U.S. combat veterans who sought residential treatment for PTSD. It was hypothesized that a history of childhood sexual abuse would be associated with elevated rates of both early mortality and behavioral causes of death. However, one-way ANOVAs did not reveal any significant differences in vital status or cause of death. Analyses did, however, yield descriptive data on the nature of the abuse experienced by the sample and the characteristics of the abuse perpetrators. These findings and their implications for treatment are discussed.

Introduction

Research indicates that 22-41% of male veterans with combat-related PTSD report a childhood history of sexual abuse (Lapp et al., 2005; Metz, 2008) compared to the 16% of men in the general population who report such a history (Finkelhor, Hotaling, Lewis, & Smith, 1990). Studies of non-veteran populations have consistently shown that childhood abuse is associated with numerous negative outcomes in adulthood. More specifically, such research has shown that a history of childhood abuse is related to adulthood health problems such as Chronic Obstructive Pulmonary Disease (Anda, Brown et al., 2008), heart disease (Felitti et al., 1998; Springer, Sheridan, Kuo, & Carnes, 2003), cancer (Felitti et al., 1998), emphysema (Felitti et al., 1998; Springer et al., 2003), hepatitis, skeletal fractures (Felitti et al., 1998), altered immune functioning (Surtees et al., 2003), asthma (Springer et al., 2003), liver problems, ulcers (Springer et al., 2003), sexually-transmitted diseases (Felitti et al., 1998; Pitzner, McGarry-Long, & Drummond, 2000), obesity (Anda, Felitti et al., 2006; Felitti et al., 1998; Walker et al., 1999), and high blood pressure (Springer et. al, 2003). In addition, a history of adverse childhood experiences has also been associated with bodily pain (Lang et al., 2006), physical role impairments (Lang et al., 2006; Walker et al., 1999), the use of pain medications (Lang et al., 2006), a decreased health-related quality of life (Corso, Edwards, Fang, & Mercy, 2008), and involvement in health-risk behaviors such as smoking (Anda, Croft et al., 1999; Anda, Felitti et al., 2006).

Research findings in this area also indicate that adverse childhood experiences are associated with involvement in a number of high-risk behaviors in adulthood than can impact an individual's health and well-being. More specifically, a history of adverse

childhood experiences has been found to be associated with attempted suicide (Dinwiddie et al., 2000; Dube, Anda, Felitti, Chapman et al.,2001; Felitti et al., 1998), promiscuity (Anda, Felitti et al., 2006; Felitti et al., 1998; Hillis, Anda, Felitti, & Marchbanks, 2001; Holmes, 2008), sexual intercourse under the influence of substances (Holmes, 2008), HIV-risk behaviors (Bensley, Van Eenwyk, & Simmons, 2000), substance abuse (Anda, Felitti et al., 2006; Bensley et al., 2000; Dube, Anda, Felitti, Edwards, & Croft, 2002; Dube, Felitti et al., 2003; Felitti et al., 1998), driving while intoxicated (Walker et al., 1999), and intimate partner violence (Anda, Felitti et al., 2006; Whitfield, Anda, Dube, & Felitti, 2003).

Despite the high rate of childhood sexual abuse in veterans with PTSD and the large body of literature linking childhood sexual abuse to negative health-related outcomes, the relationship between CSA and negative adulthood outcomes (including early mortality) has yet to be studied in this population. Interestingly, while veterans with combat-related PTSD have been found to report heightened rates of childhood sexual abuse, such veterans have also been shown to have elevated rates of early mortality (Boscarino, 2006a; Boscarino, 2006b; Crawford, Drescher, & Rosen, 2009; Drescher, Rosen, Burling, & Foy, 2003; Girod, 2006; Schafter, 2007) and increased rates of mortality from behavioral causes, such as suicides, drug overdoses, and traffic accidents (Boscarino, 2006a; Boscarino, 2006b, Bullman & Kang, 1994; D'Angelo, 2002; Drescher et al., 2003; Schafer, 2007).

Given the high rates of childhood sexual abuse and mortality among combat veterans with PTSD, an examination of the relationship between these two phenomena within this population appears warranted. The current study assessed the relationship

between childhood sexual abuse and adulthood mortality within a sample of veterans with combat-related PTSD. The research questions for the study were as follows:

1. After accounting for substance dependency and depressive symptoms, does a history of childhood sexual abuse predict mortality status in veterans with PTSD?

Hypothesis: A childhood history of sexual abuse will be significantly and positively related to mortality in veterans with PTSD.

2. After accounting for substance dependency and depressive symptoms, does a history of childhood sexual abuse predict cause of death in veterans with PTSD?

Hypothesis: A childhood history of sexual abuse will be significantly and positively related to behavioral causes of death among veterans with PTSD.

3. After accounting for substance dependency and depressive symptoms, does severity of childhood sexual abuse predict mortality status or cause of death among veterans with PTSD?

Hypothesis a: Abuse severity will be significantly and positively associated with a higher rate of all-cause mortality.

Hypothesis b: Abuse severity will be significantly and positively associated with a higher rate of mortality from behavioral causes.

Method

Participants

The participants of the current study consisted of male U.S. combat veterans who sought residential treatment for PTSD at the VA Palo Alto Medical Center in Palo Alto, California between January 1, 1990 and December 31, 1998. The VA Palo Alto Medical Center, which is associated with the National Center for PTSD (NC-PTSD), provides a 60-day residential group treatment program for veterans with combat-related PTSD. The majority of the program participants were individuals who served during the Vietnam era. In order to receive admission to the residential program, all participants had to have been substance free for the 15 days prior to admission. Furthermore, individuals who presented with active psychosis, current legal difficulties, or a severe medical problem were excluded from admission to the program.

The study sample consisted of 1,866 participants who participated in the residential treatment program between January 1, 1990 and December 31, 1998. Of these 1,866 participants, cause of death was examined among 257 participants who were deceased and for which cause of death data were available as of 2007.

Measures

Childhood sexual abuse history was assessed through the use of a modified version of the Sexual Abuse Exposure Questionnaire (SAEQ), originally developed by Rowan, Foy, Rodriguez, and Ryan (1994). The SAEQ has been shown to be reliable, with test-retest reliability coefficients for the individual items ranging from .73 to .93 (Rodriguez, Ryan, Rowan, & Foy, 1991). The modified version of the SAEQ used in the present study is a 15-item self-report measure that assesses exposure to sexual abuse prior

to the age of 18 and that provides information on the type(s) of sexual abuse experienced, the perpetrator, and the frequency of sexual abuse (see Appendix A). However, while this measure aims to address abusive experiences, it is worth noting that two of its items do not explicitly refer to experiences of a forced or unwanted nature. As a result, it is possible that some individuals may report consensual activities in response to these particular items.

The current study examined contact sexual abuse, with such abuse defined as an affirmative response to any of the eight items indicating forced or unwanted sexual contact. Contact sexual abuse was the primary form of sexual abuse examined, as it is the form of CSA that has most consistently been explored in the existing research.

However, as an additional goal of the present study was to examine the association between abuse *severity* and mortality, the study also examined the full range of abusive sexual experiences reported in order to assess how abuse severity is related to vital status and cause of death. Abuse severity was categorized in the following manner, based on the nature of the items endorsed by participants: (a) no history of abuse, defined as negative responses to all of the SAEQ items; (b) non-contact abuse, defined as an affirmative response to any of the four items indicating unwanted sexual experiences that did not involve physical contact; (c) contact abuse without penetration, defined as an affirmative response to any of the two items regarding sexual experiences that involved physical contact but not penetration ; (d) contact abuse with penetration, defined as an affirmative response to any of the four items pertaining to unwanted sexual experiences that involved penetration.

As depressive symptoms have been shown to be associated with increased rates of mortality within the veteran population (Kinder et al., 2008), data from the Beck Depression Inventory ([BDI], see Appendix B) were utilized to examine whether depressive symptoms were associated with adulthood mortality in the study population. The BDI is a 21-item self-report measure that uses a multiple choice format to assess for the affective, cognitive, and somatic symptoms associated with depression (Beck, Steer, & Garbin, 1988). The BDI has been shown to have high internal consistency, with a reported Cronbach's alpha coefficient of 0.86 for psychiatric patients and 0.81 for non-psychiatric patients (Beck et al, 1988).

As with depressive symptoms, the research suggests that substance abuse is associated with elevated rates of mortality in veterans (Crawford et al., 2009). Therefore, data from the Alcohol Dependency Scale (ADS) were used to assess whether alcohol dependency was related to mortality in the study population. The Alcohol Dependency Scale (ADS) is a 29-item questionnaire that assesses for symptoms of alcohol dependency during the past 12 months including impaired control over drinking, symptoms of withdrawal, compulsive drinking, and tolerance (Skinner & Allen, 1982). This measure has been shown to have high internal consistency, with a reported Cronbach's alpha coefficient of .92 (Skinner & Allen, 1982).

In addition to using the ADS, data from the Structured Clinical Interview for DSM-IV (SCID) were utilized to assess for lifetime substance dependence (i.e., drug or alcohol dependence). The SCID is a clinician-administered semi-structured interview used to diagnose psychiatric disorders, and takes approximately 1-2 hours to complete. Questions on the SCID address a variety of areas including background history, current

functioning, and treatment history. In addition, the SCID also assesses for past and current symptoms, with an emphasis on mood episodes, psychotic symptoms, anxiety, somatoform disorders, substance-use problems, and eating disorders. The SCID has been shown to be highly reliable at determining Axis I diagnosis (Segal, Hersen, & Van Hasselt, 1994), and has good to excellent validity when used to determine substance-related diagnosis (Kranzler, Kadden, Babor, Tennen, & Rounsaville, 1996).

Demographic information was examined through the use of a 55-item demographic background questionnaire (see Appendix C). This demographic background questionnaire is a self-report measure that provides information on basic demographics, employment status, income, educational background, military service, family background, legal history, and previous involvement in therapy.

Procedure

The present study utilized data that were originally collected as part of an archival research project conducted through the NC-PTSD. The original research project received Institutional Review Board (IRB) approval from both Stanford University and the Department of Veterans Affairs. For the current study, written permission for the use of the data was obtained from the original principle investigator at the NC-PTSD (see Appendix D). In addition, Institutional Review Board (IRB) approval was also obtained from Pepperdine University.

The present study also utilized mortality data from the Schafer (2007) study. In this study, Shafer examined the general mortality trends of the veterans involved in the VA Palo Alto residential treatment program. Schafer determined mortality status through an Internet search of the Social Security Death Master File, a database that provides vital

status information. Once the deceased veterans were identified within the Social Security Death Master File, a request for cause of death information was made to the National Death Index (NDI) and death certificates for the deceased veterans were obtained. The mortality data obtained from the death certificates were then grouped and coded by cause of the death. Deaths were coded as either behaviorally- caused or naturally-caused. Included in the behavioral cause of death category were deaths associated with high-risk behaviors. Behavioral causes of death were further categorized into four subgroups: (a) accidents, including all motor vehicle accidents, (b) drug and alcohol related deaths, (c) high-risk intravenous behavior, and (d) intentional deaths, including suicides, homicides, and death from encounters with police. The natural cause of death category consisted of any deaths that did not fit the behavioral cause of death criteria. Natural causes of death were further categorized into 5 subgroups: (a) cancers, (b) cardiovascular diseases, (c) respiratory system failures, (d) diabetes, and (e) other (including deaths that did not fit in any other category and deaths in which the cause of death was not known).

Data Analysis

Statistical analyses were conducted in multiple steps. First, the data were examined for missing data and outliers, and random replacement was utilized for any missing data. Descriptive statistics were then run for the demographic and study variables. Following this, frequencies were calculated for vital status, cause of death, type of sexual abuse, and abuse perpetrator.

In the initial plan for data analysis, logistical regressions were to be conducted in order to determine whether childhood sexual abuse was predictive of vital status and cause of death. However, initial Chi-square analyses revealed no significant differences

in mortality based on child abuse history. As a result, it was decided that logistical regression analyses were no longer warranted.

After completing the chi-square analyses to examine whether vital status and cause of death differed by abuse history and abuse severity, an additional chi-square analysis was conducted in order to determine whether vital status and cause of death differed as a result of the presence or absence of a substance-related diagnosis on the SCID.

Finally, multiple ANOVAs were conducted to determine if vital status and cause of death differed based on BDI score and ADS score. All statistical tests were conducted utilizing an alpha level of .05.

Results

General Characteristics of the Sample

Demographic characteristics for the sample are displayed in Table 1. The sample for the present study consisted of 1866 male combat veterans. The participants ranged in age from 21 to 74, with an average age of approximately 47 years. The majority (65.7%) of the sample was Caucasian, and approximately 90% of the participants had 12 or more years of education[1]. With respect to marital status, most participants were either married (33.9%) or divorced (34.2%). The sample consisted primarily of veterans who served in the Army (65.3%), with 24.3% of the sample serving in the Marines, and 10.4% serving in the Navy or Air Force. The majority (86.2%) of the sample reported an income of less than $30,000 per year[2].

The sample's response patterns on the SAEQ, BDI, ADS, and SCID are displayed in Table 2. The participants' scores on the SAEQ ranged from 0 to 15 with a mean of 1.95 (N = 534, SD = 2.95). Scores on the BDI ranged from 1 to 63, with an average score of 31.56 (N = 1314, SD = 10.24). The sample's scores on the ADS ranged from 0 to 51 with a mean of 15.51 (N = 989, SD = 13.54). With respect to the SCID, 67.7% of the participants met the diagnostic criteria for an alcohol use disorder during their lifetime, while 49.9% of the participants met the criteria for another substance use disorder at some point during their lifetime.

Mortality Characteristics of the Sample

The mortality characteristics of the sample are summarized in Table 3. With respect to vital status, 85.6% of the sample was alive at the time of the current study,

[1] N= 1318
[2] N= 1207

whereas 14.4% of the sample was deceased. Among those who were deceased, 48.5% died from behavioral causes whereas 47.4% died from natural causes. Cause of death was unknown for 4.1% of the sample (see Table 4).

Abuse Characteristics of the Sample

The abusive experiences reported by the sample are summarized in Table 5. As shown, 25.7% of the sample reported a history of childhood sexual abuse involving physical contact, whereas 74.3% of the sample did not report such a history[3]. With respect to the severity of sexual abuse experienced by the sample, 18.9% of the sample reported forced or unwanted sexual contact with penetration, 6.6% reported forced or unwanted sexual contact without penetration, 11.7% reported sexual abuse without physical contact, and 62.8 % did not report a history of childhood sexual abuse [4] (see Table 6).

Perpetrator Characteristics of the Sample

Perpetrator data were assessed for veterans who reported childhood sexual abuse involving either genital intercourse or anal intercourse. As shown in Table 7, of those veterans who reported forced or coerced genital intercourse, the majority reported that the perpetrator was a known young person (40%), or a known adult (22.7%). In addition, when looking at both the gender and age of the perpetrator, the veterans in the sample most frequently reported being abused by a young female (33.3%).

As shown in Table 8, of those veterans who reported forced or coerced anal intercourse during childhood, the majority reported that the perpetrator was either a known adult (31%) or an adult stranger (27.6%). Furthermore, when considering both the

[3] N= 545
[4] N= 545

age and gender of the perpetrator, the veterans in the sample most frequently reported that the perpetrator was an adult male (44.8%).

In addition to assessing data on forced or unwanted genital or anal contact, the current study also examined data on physical contact that was not necessarily of a forced or coerced nature (i.e., "private parts touched by another person in a sexual way, e.g., genitals, breasts"). One hundred fifty six of the veterans in the sample reported experiencing such contact during childhood. Table 9 displays the perpetrator data associated with such contact. The most commonly reported other party was a known young person (43.6%). When considering both the age and gender of the other party, the most commonly reported individual was a young female (38.5%).

Group Differences on Vital Status

With respect to vital status, it was hypothesized that those veterans with a childhood history of contact sexual abuse would have significantly higher rates of early mortality than would those veterans without a history of such abuse. The data did not support this hypothesis, as the relationship between contact sexual abuse and vital status was non-significant, χ^2 (1, N = 545) =.205, p = .650), (contact abuse = 8.6% deceased and 91.4% alive; no contact abuse = 9.9% deceased and 90.1% alive). With respect to abuse severity, it was hypothesized that those veterans with a history of severe childhood sexual abuse would have higher rates of early mortality than those veterans who endured less severe abuse during childhood and those who did not report a history of childhood sexual abuse. This hypothesis was not supported, as the relationship between abuse severity and vital status was non-significant, χ^2 (3, N = 545) = 1.744, p = .627, (no abuse = 9.1 % deceased and 90.9 % alive; non-contact abuse= 14.1 % deceased and 85.9 % alive;

contact abuse without penetration = 8.3% deceased and 91.7% alive; contact abuse with penetration = 8.7% deceased and 91.3 % alive).

Group Differences on Cause of Death

With respect to cause of death, it was hypothesized that veterans with a childhood history of contact sexual abuse would have significantly higher rates of death from behavioral causes than would veterans without such a history. However, analyses did not reveal a significant relationship between contact sexual abuse and cause of death, χ^2 (1, N = 52) =.126, p = .722), (contact abuse = 41.7% behavioral and 58.3% natural; no contact abuse = 47.5% behavioral and 52.5 % natural). In terms of abuse severity, it was hypothesized that veterans with a history of severe childhood sexual abuse would have higher rates of death from behavioral causes than those veterans who endured less severe abuse and those without a history of childhood sexual abuse. This hypothesis was not supported, however, as analyses revealed a non-significant relationship between abuse severity and cause of death, χ^2 (3, N = 52) = 5.416, p = .144, (no abuse = 38.7% behavioral and 61.3% natural; non-contact abuse = 77.8% behavioral and 22.2% natural; contact abuse without penetration = 66.7% behavioral and 33.3% natural; contact abuse with penetration = 33.3% behavioral and 66.7% natural).

Relationships among Study Variables and the BDI

Analyses of the relationship between contact sexual abuse and BDI score revealed a non-significant relationship, F(1, 520) = 1.685, p = .195. In addition, a non-significant relationship was also found between abuse severity and BDI score, F(3, 518) = 1.718, p = .162. Furthermore, a non-significant relationship was also found between vital status

and BDI score, $F(1, 1312) = .643$, $p = .423$, and between BDI score and cause of death , $F(2, 164) = 2.036$, $p = .134$.

Relationships among Study Variables and the ADS

An examination of the relationship between contact sexual abuse and ADS score did not reveal a significant relationship, $F(1, 465) = 2.291$, $p = .195$, (contact abuse: $M = 19.20$; no contact abuse: $M = 17.06$). Conversely, a significant relationship was found between abuse severity and ADS score, with individuals with a history of severe sexual abuse reporting significantly higher ADS scores, $F(3, 463) = 4.491$, $p < .01$, (no abuse: $M = 16.54$; non contact abuse: $M = 19.81$; contact abuse without penetration: $M = 13.31$; contact abuse with penetration: $M = 21.27$). With respect to vital status, analyses revealed a significant relationship between ADS score and mortality, with higher scores on the ADS associated with higher rates of early mortality, $F(1, 987) = 20.684$, $p < .001$, (deceased: $M = 23.12$; living: $M = 16.84$). However, the relationship between ADS score and cause of death was not significant, $F(2, 102) = .488$, $p = .615$, (behavioral: $M = 21.29$; deceased: $M = 24.30$).

Relationships between Study Variables and SCID Diagnosis

An exploration of the relationship between contact sexual abuse and substance dependence, as determined by the SCID, did not reveal a significant relationship. $\chi^2 (1, N = 501) = .749$, $p = .387$). Similarly, the relationship between sexual abuse severity and SCID diagnosis was also non-significant $\chi^2 (3, N = 501) = .685$, $p = .877$.

Analyses revealed a significant relationship between vital status and SCID diagnosis, with veterans with substance use disorders experiencing significantly higher rates of early mortality, $\chi^2 (1, N = 1402) = 14.63$, $p < .001$. In contrast, a significant

relationship was not found between SCID diagnosis and cause of death, χ^2 (2, N = 190) = 1.397, p =.497, (behavioral cause of death = 45.8% behavioral and 50.0 % natural; no substance dependence diagnosis = 50.0 % behavioral and 40.9 % natural).

Discussion

The relationship between childhood sexual abuse and negative health-related outcomes in adulthood has been well established in the literature (Anda et al., 1999; Anda et al., 2006; Anda et al., 2008; Bensley et al., 2000; Corso et al., 2008; Dinwiddie et al., 2000; Dube et al., 2005; Felitti et al., 1998; Pitzner et al., 2000; Saunders et al., 1999). However, very few studies have explored this relationship among the veteran population, or examined the association between childhood sexual abuse and adulthood mortality. This study sought to extend the research in this area by examining the relationship between childhood sexual abuse and adulthood mortality in a sample of male Vietnam veterans with combat-related PTSD.

The three primary hypotheses of the study were not supported. Therefore, veterans with a history of contact sexual abuse during childhood did not exhibit higher rates of all-cause mortality, nor were such individuals more likely to die from behavioral causes of death. In addition, greater abuse severity was not significantly associated with all-cause mortality or behavioral causes of death. These results are surprising, giving the large body of literature linking childhood abuse to negative health-related outcomes in adulthood. However, there could be a number of reasons for such findings. One such explanation is that while childhood abuse has been found to be associated with negative health-related outcomes (Anda et al., 2008; Bensley et al., 2000; Dinwiddie et al., 2000; Dube et al., 2005; Felitti et al., 1998; Pitzner et al., 2000; Saunders et al., 1999; Walker et al., 1999), such outcomes may not actually result in earlier mortality or behavioral causes of death. In addition, it is also possible that the non-significant findings within the current study are the result of having insufficient statistical power, given the relatively

small number of deceased veterans in the sample and the limited data available on cause of death and childhood sexual abuse. Although it is surprising that no association was found between childhood sexual abuse and adulthood mortality, it is worth noting that this finding is consistent with the results from the one identified study in this area (White & Widom, 2003).

While childhood sexual abuse was not found to be associated with adulthood mortality within this sample, significant relationships were found between mortality and the use of substances. More specifically, individuals with a history of alcohol dependence (as measured by the ADS) or who met the diagnostic criteria for substance dependence (as measured by the SCID) evidenced higher rates of all-cause mortality than did those without such a history. This finding is consistent with the conclusions of Crawford et al. (2009), who determined that problematic substance use is associated with elevated rates of early mortality in the veteran population. Interestingly, within the current study, substance use was not found to be related to cause of death. There are a number of possible explanations for this finding. As substance-related causes of death are often underreported on death certificates (Pollock, Boyle, DeStefano, Moyer, & Kirk, 1987), it is possible that substance use played a greater role than is reflected in the current findings. Moreover, given the relatively small number of individuals for which cause of death data were available, the non-significant findings in the present study may also be the result of insufficient statistical power.

Surprisingly, a relationship was not found between contact sexual abuse during childhood and a history of alcohol dependence (as measured by the ADS). This finding is in contrast to the literature demonstrating a strong association between childhood abuse

and problematic alcohol use (Bensley et al., 2000; Dinwiddie et al., 2000; Dube et al., 2005; Saunders et al., 1999). However, this non-significant finding is likely due to the fact that a relatively high level of alcohol use was reported by the overall sample of veterans. While an association was not found between contact abuse and alcohol dependence, a significant relationship was established between alcohol dependence and abuse severity, with individuals with more severe sexual abuse histories evidencing higher rates of alcohol dependence on the ADS. This finding is consistent with this literature in this area (Bensley et al., 2000; Dinwiddie et al., 2000; Dube et al., 2005; Saunders et al., 1999) and suggests that that individuals with a history of severe childhood sexual abuse may attempt to cope with such abuse by engaging in problematic alcohol use.

Interestingly, while individuals who endured greater levels of sexual abuse were more likely to demonstrate a history of alcohol dependence on the ADS, such individuals were not more likely to meet the diagnostic criteria for substance dependence, as measured by the SCID. This finding is likely due to the stricter cutoff criteria on the SCID, as compared to the ADS. Surprisingly, the relationship between contact sexual abuse and substance dependence (as measured by the SCID) was also non-significant. There are a number of explanations for such findings, but it is again likely that while veterans in the sample may have reported high levels of problematic substance use, they may not have met the strict diagnostic criteria of the SCID.

Surprisingly, analyses examining the role of depression did not reveal any significant relationships. More specifically, depression was not found to be related to either contact sexual abuse or sexual abuse severity. These findings are inconsistent with

the large body of literature suggesting a strong relationship between childhood abuse and depressive symptoms (Dinwiddie et al., 2000; Dube et al., 2005; Gahm, Lucenko, Retzlaff, & Fukuda, 2007; Saunders et al., 1999; Cabrera et al., 2007). Given the relatively high level of depressive symptoms reported by the overall sample in the current study, it is likely that that this non-significant relationship was the result of the limited variability within the data. Within the current study, depression was also not found to be associated with all-cause mortality or cause of death. Such findings are surprising, given the results from Kinder et al. (2008) suggesting that depressive symptoms are associated with increased mortality rates among veterans. However, it is again likely that the high level of depressive symptoms reported by the overall sample and the limited variability among BDI scores contributed to this non-significant finding.

Although the three primary hypotheses of the study were not supported, this study yielded useful descriptive information on the sexually abusive experiences reported by the sample. In terms of the prevalence of childhood sexual abuse reported by the sample, nearly 26% of the veterans reported a history of sexual abuse involving physical contact. Such findings are consistent with previous findings (Metz, 2008). Interestingly, however, this prevalence rate is slightly lower than that of Lapp et al. (2005), who reported that 41% of their sample of veterans reported childhood sexual abuse. However, while Lapp et al. utilized the SAEQ in their study, they included non-contact abuse in their overall prevalence data, whereas the overall prevalence data for the current study includes only contact abuse. In addition, while Lapp's study defined childhood sexual abuse as occurring before the age of 16, the current study utilized a cutoff of 18.

In terms of the severity of childhood sexual abuse reported by the veterans in the current sample, approximately 19% reported forced or coerced contact involving penetration, whereas nearly 7% reported forced or coerced physical contact without penetration. In addition, approximately 12% of the veterans in the sample reported unwanted sexual experiences that did not involve physical contact. Such findings therefore suggest that a relatively high percentage of the veterans in the study reported a history of unwanted sexual experiences during childhood.

Of those veterans who reported forced or coerced genital intercourse during childhood, the majority reported that the perpetrator was someone known to them. In terms of the gender and age of the perpetrator, the veterans in the sample most commonly reported being abused by a young female. Consistent with the conclusions of Metz (2008), such findings suggest that the most common perpetrator in these cases was a young female with whom the individual was familiar.

Of those veterans who reported forced or coerced anal intercourse during childhood, the majority reported that the perpetrator was either a known adult or an adult stranger. When considering the demographics of the perpetrator, the veterans in the sample most commonly reported that the perpetrator was an adult male. Therefore, when looking at the overall data on forced or coerced intercourse, the veteran's relationship to the perpetrator and the demographics of the perpetrator appear to differ based on the type of assault. More specifically, it appears that those who endured forced or coerced genital intercourse were more likely to be assaulted by a young female with whom they were acquainted whereas those who experienced forced or coerced anal intercourse were more

likely to have been assaulted by an adult male who was either a stranger or someone with whom they were acquainted.

Among those veterans who reported experiencing sexual contact that was not explicitly of a forced or unwanted nature, the majority reported that the other party was a young person with whom they were familiar, often a young female. Given these findings and the ambiguous wording of some of the items on the SAEQ, it is likely that some of the experiences reported by the participants referred to consensual activity among peers, as opposed to experiences of a sexually abusive nature.

Implications for Treatment

The present study has a number of implications for the treatment of veterans with combat-related PTSD. The high prevalence of CSA among the study participants highlights the importance of assessing for and treating childhood abuse among veterans with PTSD. Furthermore, given the large body of research linking childhood abuse to negative health-related outcomes, it will be extremely important for VA providers to continue to work on integrating metal health and primary care services. Moreover, the high prevalence of depression and problematic substance use reported by the overall sample suggests that it will be crucial for providers to monitor and address such issues among veterans with combat-related PTSD.

Limitations and Future Directions

While the current study provides useful findings, including descriptive information on the nature of sexually abusive experiences endured by a sample of veterans during childhood, it also has a number of limitations. First, the study relied on self-report data to determine history of childhood sexual abuse. Research shows that

sexual abuse is typically underreported (DellaFemina, Yeager, & Lewis, 1990), and therefore, the findings reported in this study are likely an underestimation of the prevalence of childhood sexual abuse within the sample. Furthermore, the study relied on the retrospective recall of participants, which is subject to inaccuracies and distortions (Edwards, Fivush, Anda, Felitti, & Nordenberg, 2001). In addition, in the current study, cause of death was determined through the examination of death certificates. However, research shows that substance-related causes of death are typically underreported on death certificates (Pollock et al., 1987) while cardiovascular-related causes of death are typically over-reported (Lloyd-Jones, Martin, Larson, & Levy, 1998). Moreover, the current study examined the relationship between childhood sexual abuse and mortality in a sample of male U.S. Vietnam veterans with combat-related PTSD. Therefore, the study findings cannot be generalized to females, civilians, or individuals without PTSD. In addition to the previously mentioned limitations, two other limitations of the current study are worth noting. Limited data were available on mortality status, cause of death, and childhood sexual abuse history, restricting statistical power. Furthermore, the veterans in the sample reported relatively high scores on the BDI and the ADS, limiting the variability within such variables, and making significant statistical differences more difficult to establish.

In order to address the limitations of the present study, future studies could utilize verified cases of child sexual abuse, thereby limiting the reliance on self-report data. Furthermore, future studies could examine the relationship between childhood sexual abuse and mortality among community samples (with and without PTSD), thereby allowing for the study of this relationship in both women and non-military populations.

Moreover, future studies could also benefit from using samples for which data on child abuse and mortality are more readily available, thereby limiting difficulties with statistical power.

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Table 1

Demographic Information

	N	%	*M*	*SD*	Number Missing (%)
Age (at intake)	1866		46.94	5.08	0
Years of Education	1318		13.24	2.07	548 (29.4)
Less than 12 years	164	12.5			
12 years	326	24.7			
More than 12 years	828	62.9			
Ethnicity	1842				14 (0.8)
Caucasian	1226	66.2			
Hispanic	248	13.4			
African American	219	11.8			
Other*	159	8.6			
Marital Status	1344				522 (28.0)
Never Married	120	8.9			
Married/Dom.	469	33.9			
Partner	578	43			
Divorced	160	11.9			
Separated	17	1.3			
Widowed					
Income	1207				659 (35.3)
< 10,000	608	50.4			
10,000-30,000	432	35.8			
30,001-50,000	132	10.9			
> 50,000	35	2.9			
Branch of Service	1249				617 (33.1)
Army	816	65.3			
Marines	303	24.3			
Navy	89	7.1			
Air Force	41	3.3			

*Other=Includes Native American, Asian/Pacific Islander, Multiracial, and Other

Table 2

Study Variables

Instrument	*n*	%	*M*	*SD*	Range	Number Missing (%)
SAEQ (Total Score)	534		1.95	2.95	0-15	
BDI	1314		31.56	10.24	1-63	
ADS	989		17.51	13.54	0-51	
SCID						
Alcohol Dependence (*N* = 1401)	948	67.7				465 (24.9)
Drug Dependence (*N* = 1401)	701	49.9				462 (24.8)

Note. SAEQ=Sexual Abuse Exposure Questionnaire; BDI=Beck Depression Inventory; ADS=Alcohol Dependence Scale; SCID=Structured Clinical Interview for the DSM-IV

Table 3

Vital Status Frequencies

	N	%	Number Missing (%)
Alive	1597	85.6	
Deceased	268	14.4	
Total	1865		1 (.1)

Table 4

Cause of Death Frequencies

	N	%
Natural Cause of Death	127	47.4
Behavioral Cause of Death	130	48.5
Unknown Cause of Death	11	4.1

Table 5

Reported Childhood Contact Sexual Abuse Frequencies

SAEQ	*N*	%
No Contact Abuse	405	74.3
Contact Abuse	140	25.7

Note. SAEQ=Sexual Abuse Exposure Questionnaire

Table 6

Reported Childhood Sexual Abuse Severity Frequencies

SAEQ	*N*	%
No Sexual Abuse	342	62.8
Non-Contact Abuse	64	11.7
Contact Abuse Without Penetration	36	6.6
Contact Abuse With Penetration	103	18.9

Note. SAEQ=Sexual Abuse Exposure Questionnaire

Table 7

Prevalence Rates of Perpetrators of Genital Sexual Assault

Identified Perpetrator	N	Percent
Known Young Person	30	40.0
Young Female	29	38.6
Known Adult	17	22.7
Adult Female	19	25.3
Young Family Member	9	12.0
Adult Stranger	9	12.0
Adult Family Member	7	9.3
Adult Male	6	8.0
Young Stranger	4	5.3
Young Both	4	5.0
Parental Figure	3	4.0
Adult Both	2	2.7
Young Male	1	1.3

Table 8

Prevalence Rates of Perpetrators of Anal Sexual Assault

Identified Perpetrator	N	Percent
Adult Male	13	44.8
Known Adult	9	31.0
Adult Stranger	8	27.6
Known Young Person	8	27.6
Young Male	5	17.2
Adult Female	5	17.2
Young Female	4	13.8
Adult Family Member	3	10.3
Young Family Member	3	10.3
Young Stranger	2	6.9
Parental Figure	2	6.9
Adult Both	1	3.4
Young Both	1	3.4

Table 9

Prevalence Rates of Perpetrators of Non-Forced Sexual Contact

Identified Perpetrator	N	Percent
Known Young Person	68	43.6
Young Female	60	38.5
Known Adult	46	29.5
Adult Female	32	20.5
Adult Male	32	30.5
Adult Stranger	29	18.6
Young Family Member	20	12.8
Adult Family Member	12	7.7
Young Stranger	11	7.1
Parental Figure	9	5.8
Young Male	9	5.8
Young Both	8	5.1
Adult Both	6	3.8

APPENDIX A

Sexual Abuse Exposure Questionnaire (SAEQ)

SAEQ AdmitID ☐☐☐☐ Location 01 Admin 01 Date ☐☐/☐☐/☐☐

Instructions: For each of the following experiences **before the age of 18**, please check the apporpriate box(es) as follows:

1. Under "Never Happened" if you **never had the experience before 18**
2. If it happened, and adult(s) was/were involved check all that apply:

   Parent Figure (father, mother, step-parent, foster parent, etc), **Other Adult Family** (grandfather, aunt, etc), **Other Known Adult --not family** (teacher, neighbor, coach, etc), **Adult stranger** (someone you didn't know at the time). Check **M** circle if the person was Male, **F** if the person was Female, and **B** if both Male and Female perople were involved.
3. If it happened, and person(s) under 18 was/were involved check all that apply:

   Young Family Member (cousin, sister, brother, etc), **Known Young Person** (baby-sitter, friend etc), Young **stranger** (someone you didn't know at the time). Check **M** circle if the person was Male, **F** if the person was Female, and **B** if both Male and Female perople were involved.

Did any of the following happen to you *before age 18?*		Adult *(person/s older than 18 at time of event)*					Youth *(person/s younger than 18)*			
	Never happened	Adult Parent Figure	Other Adult Family	Other Known Adult	Adult Stranger	Male/ Female / Both	Young Family Member	Known Young Person	Young Stranger	Male/ Female / Both
1. Exposed to inappropriate comments about sex or about sexual parts of your body?	☐	☐	☐	☐	☐	M F B ○ ○ ○	☐	☐	☐	M F B ○ ○ ○
2. Exposed to someone "flashing" or exposing their sexual parts to you?	☐	☐	☐	☐	☐	M F B ○ ○ ○	☐	☐	☐	M F B ○ ○ ○
3. Watched while bathing, dressing, or using the bathroom in a way that was uncomfortable for you?	☐	☐	☐	☐	☐	M F B ○ ○ ○	☐	☐	☐	M F B ○ ○ ○
4. Forced or coreced to watch sexual acts like masturbation or intercourse?	☐	☐	☐	☐	☐	M F B ○ ○ ○	☐	☐	☐	M F B ○ ○ ○
5. Private parts touched by another person in a sexual way (e.g., genitals, breasts)?	☐	☐	☐	☐	☐	M F B ○ ○ ○	☐	☐	☐	M F B ○ ○ ○
6. Experienced someone rubbing their genitals against you?	☐	☐	☐	☐	☐	M F B ○ ○ ○	☐	☐	☐	M F B ○ ○ ○
7. Forced or coerced to touch another person in and intimate or private part of their body?	☐	☐	☐	☐	☐	M F B ○ ○ ○	☐	☐	☐	M F B ○ ○ ○
8. Forced or coerced to have genital intercourse?	☐	☐	☐	☐	☐	M F B ○ ○ ○	☐	☐	☐	M F B ○ ○ ○

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Did any of the following happen to you *before age 18?*	Never happened	Adult *(person/s older than 18 at time of event)*					Youth *(person/s younger than 18)*			
		Adult Parent Figure	Other Adult Family	Other Known Adult	Adult Stranger	Male/ Female / Both	Young Family Member	Known Young Person	Young Stranger	Male/ Female / Both
9. Forced or coerced to have anal intercourse?	☐	☐	☐	☐	☐	M F B ○ ○ ○	☐	☐	☐	M F B ○ ○ ○
10. Forced or coerced to perform oral intercourse on someone else?	☐	☐	☐	☐	☐	M F B ○ ○ ○	☐	☐	☐	M F B ○ ○ ○
11. Experienced someone performing oral intercourse on you against your will?	☐	☐	☐	☐	☐	M F B ○ ○ ○	☐	☐	☐	M F B ○ ○ ○
12. Forced or coerced to pose for sexy or suggestive photographs?	☐	☐	☐	☐	☐	M F B ○ ○ ○	☐	☐	☐	M F B ○ ○ ○
13. Forced or coerced to perform sexual acts for money?	☐	☐	☐	☐	☐	M F B ○ ○ ○	☐	☐	☐	M F B ○ ○ ○
14. Kissed in a sexual way against your will?	☐	☐	☐	☐	☐	M F B ○ ○ ○	☐	☐	☐	M F B ○ ○ ○
15. Forced or coerced to participate in sexual acts other than those discussed above?	☐	☐	☐	☐	☐	M F B ○ ○ ○	☐	☐	☐	M F B ○ ○ ○

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APPENDIX B

Beck Depression Inventory

Beck-D

AdmitID | Location | Admin | Date

Location: 0 1

Date: ☐☐ / ☐☐ / ☐☐

INSTRUCTIONS: The following pages contain groups of statements. Please read each group of statements carefully. Then pick out the **one statement** in each group which best describes the way you have been feeling in the **PAST WEEK, INCLUDING TODAY!** Fill in the box next to the statement you have picked. Be sure to read all the statements in each group before making your choice.

1. ☐ I do not feel sad
   ☐ I feel sad
   ☐ I am sad all of the time and I can't snap out of it
   ☐ I am so sad or unhappy that I can't stand it

2. ☐ I am not particularly discouraged about the future.
   ☐ I feel discouraged about the future.
   ☐ I feel I have nothing to look forward to.
   ☐ I feel that the future is hopeless and that things can't improve.

3. ☐ I do not feel like a failure.
   ☐ I feel I have failed more than the average person.
   ☐ As I look back on my life, all I can see is a lot of failures
   ☐ I feel I am a complete failure as a person.

4. ☐ I get as much satisfaction out of things as I used to.
   ☐ I don't enjoy things the way I used to.
   ☐ I don't get real satisfaction out of anything anymore.
   ☐ I am dissatisfied or bored with everything.

5. ☐ I don't feel particularly guilty.
   ☐ I feel guilty a good part of the time.
   ☐ I feel quite guilty most of the time.
   ☐ I feel guilty all of the time.

6. ☐ I don't feel I am punished.
   ☐ I feel I may be punished.
   ☐ I expect to be punished.
   ☐ I feel I am punished.

7. ☐ I don't feel disappointed in myself.
   ☐ I am disappointed in myself.
   ☐ I am disgusted with myself.
   ☐ I hate myself.

8. ☐ I don't feel I am any worse than anybody else.
   ☐ I am critical of myself for my weaknesses or mistakes.
   ☐ I blame myself all the time for my faults.
   ☐ I blame myself for everything bad that happens.

9. ☐ I don't have any thoughts of killing myself.
   ☐ I have thoughts of killing myself, but I would not carry them out
   ☐ I would like to kill myself.
   ☐ I would kill myself if I had the chance.

10. ☐ I don't cry any more than usual.
    ☐ I cry more now than I used to.
    ☐ I cry all the time now.
    ☐ I used to be able to cry, but now I can't cry even though I want to

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Beck-D

11. ☐ I am no more irritated now than I ever am.
    ☐ I get annoyed or irritated more easily than I used to.
    ☐ I feel irritated all the time now.
    ☐ I don't get irritated at all by the things that used to irritate me

12. ☐ I have not lost interest in other people.
    ☐ I am less interested in other people than I used to be.
    ☐ I have lost most of my interest in other people.
    ☐ I have lost all of my interest in other people.

13. ☐ I make decisions about as well as I ever could.
    ☐ I put off making decisions more than I used to.
    ☐ I have greater difficulty in making decisions than before.
    ☐ I can't make decisions at all anymore.

14. ☐ I don't feel I look any worse than I used to.
    ☐ I am worried that I am looking old or unattractive.
    ☐ I feel that there are permanent changes in my appearance that make me look unattractive.
    ☐ I believe that I look ugly.

15. ☐ I can work about as well as before.
    ☐ It takes an extra effort to get started at doing something.
    ☐ I have to push myself very hard to do anything.
    ☐ I can't do any work at all.

16. ☐ I can sleep as well as usual.
    ☐ I don't sleep as well as I used to.
    ☐ I wake up 1-2 hours earlier than usual and find it hard to get back to sleep.
    ☐ I wake up several hours earlier than I used to and cannot get back to sleep.

17. ☐ I don't get more tired than usual.
    ☐ I get tired more easily than I used to.
    ☐ I get tired from doing almost anything.
    ☐ I am too tired to do anything.

18. ☐ My appetite is no worse than usual.
    ☐ My appetite is not as good as it used to be.
    ☐ My appetite is much worse now.
    ☐ I have no appetite at all anymore.

19. ☐ I haven't lost much weight, if any, lately.
    ☐ I have lost more than 5 pounds.
    ☐ I have lost more than 10 pounds.
    ☐ I have lost more than 15 pounds.

    I am purposely trying to loose weight by eating less.
    ☐ No ☐ Yes

20. ☐ I am no more worried about my health than usual.
    ☐ I am worried about physical problems such as aches and pains; or upset stomach; or constipation.
    ☐ I am very worried about physical problems and it's hard to think about anything else.
    ☐ I am so worried about my physical problems that I cannot think about anything else.

21. ☐ I have not noticed any recent change in my interest in sex.
    ☐ I am less interested in sex than I used to be.
    ☐ I am much less interested in sex now.
    ☐ I have lost interest in sex completely.

APPENDIX C

Demographic Questionnaire

Demographic Background

AdmitID ☐☐☐☐☐ Admin 0 1 Enter Today's Date ☐☐ / ☐☐ / ☐☐

I. DESCRIPTION AND BACKGROUND

1. Gender ☐ 1. Male ☐ 2. Female

2. Marital Status **(Check one)**
☐ 1. Married ☐ 3. Widowed ☐ 5. Divorced
☐ 2. Remarried ☐ 4. Separated ☐ 6. Never Married

3. Race / Ethnic Ancestry **(Check one)**
☐ 1. Asian / Pacific Islander ☐ 4. Caucasian ☐ 7. Other
☐ 2. African American ☐ 5. Native American / Alaskan Native
☐ 3. Hispanic / Latino ☐ 6. Mixed Ethnicity

4-6 Service Connected Disability
4. For PTSD (Pre-1980; PTSD often diagnosed as Psychoneurosis) . . . . . ☐ No ☐ Yes
5 For Psychiatric, other than PTSD . . . . . ☐ No ☐ Yes
6 For Medical, non-Psychiatric. . . . . ☐ No ☐ Yes

7-8. Percent service connection: **(Leave blank if not service connected)**
7. For Psychiatric (including PTSD). . . . . ☐☐☐
8. For Physical. . . . . ☐☐☐

9. Veteran's living situation for most of the last 4 months? **(Check one)**
☐ a house or apartment ☐ in jail
☐ a rooming house ☐ a shelter
☐ a halfway house, group home or domicilary ☐ on the street (no regular place)
☐ a hospital or other inpatient treatment unit

V. EMPLOYMENT / INCOME / EDUCATIONAL STATUS

10. What was the highest level the veteran completed in school?
(e.g., completed high school - 12; GED = 12, BA - 16). . . . . ☐☐

11. Please estimate your family's income/social status while you were growing up:
☐ Very Poor ☐ Lower Middle ☐ Middle Class ☐ Upper Middle ☐ Upper Class (wealthy)

12. What was your total household income last year?
☐ < $10K ☐ $10K-$20K ☐ $20K-$30K ☐ $30K-$40K ☐ $40K-$50K ☐ > $50K+

13.Are you currently seeking some form of monetary compensation? . . . . . ☐ No ☐ Yes

14. Is the veteran working now? **(Check one)**
☐ 0. No ☐ 1. Part-time ☐ 2. Full-time

15. Approximately how many jobs have you held since you left the military? **(Check one)**
☐ None ☐ 1-5 ☐ 6-12 ☐ 13-50 ☐ 50 or more

II. MILITARY / TRAUMA EXPOSURE

12. Period of service **(Check all that apply)**
☐ 1. Pre-WW II ☐ 4. Korean War ☐ 7. Post-Vietnam War
☐ 2. World War II ☐ 5. Between Korea/Vietnam ☐ 8. Persian Gulf War
☐ 3. Pre-Korean War ☐ 6. Vietnam War

12A. Since September 11, 2001 (9/11) did the veteran serve in the United States military in:
Afghanistan . . . . . ☐ No ☐ Yes
Iraq . . . . . ☐ No ☐ Yes

12B. Did the veteran ever serve in the United States military in a peace-keeping operation (such as in Lebanon, Somalia, Bosnia, Kosovo)?. . . . . ☐ No ☐ Yes

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Demographic Background

13. Branch of service **(Check all that apply)**
    - ☐ 1. Army
    - ☐ 2. Navy
    - ☐ 3. Air Force
    - ☐ 4. Marines
    - ☐ 5. Coast Guard

14. Did the veteran ever serve in a war zone? ☐ No ☐ Yes

15. Did the veteran ever receive friendly or incoming fire from small arms, artillery, rockets, mortars or bombs? ☐ No ☐ Yes

16. Was the veteran ever a Prisoner of War? ☐ No ☐ Yes

17. Did the veteran ever observe others or participate him/herself in atrocities, such as torturing prisoners, mutilating enemy bodies, or harming civilians? If veteran **both** observed and participated, select"Participated." **(Check one)**
    - ☐ 0. No
    - ☐ 1. Observed others
    - ☐ 2. Participated
    - ☐ N. Don't know

18. Were you exposed to a blast(s) while you were deployed? ☐ No ☐ Yes

19. Did you have any injury(ies) during your deployment from any of the following? **(Check all that apply)**
    - ☐ Fragment
    - ☐ Bullet
    - ☐ Vehicular (any type of vehicle, including airplane)
    - ☐ Fall
    - ☐ Blast (Improvised explosive device, RPG, Land mine, Grenade, etc)
    - ☐ Other Specify: _____

VI. FAMILY BACKGROUND

20. What state were you born in? ☐☐ 21. What state did you grow up in? ☐☐

22. How many children were in your family growing up? (include yourself) ☐☐

22. What was your Birth Order: (i.e. if you were the 5th of 6 children - enter a 5) ☐☐

24. Were you adopted or raised in foster care? ☐ No ☐ Yes
25: Did your parents get divorced before you were 18? ☐ No ☐ Yes
26: Was anyone in your family hospitalized for emotional or psychiatric reasons ? ☐ No ☐ Yes
27. Did anyone in your family attempt suicide? ☐ No ☐ Yes
28: Did anyone in your family complete suicide? ☐ No ☐ Yes
29: Did either of your parents abuse drugs/alcohol. ☐ No ☐ Yes

30:Please rate your **childhood happiness** on the scale below: . . .
☐ Never Happy ☐ Rarely Happy ☐ Sometimes Happy ☐ Very Happy ☐ Extremely Happy

31.Please rate your **adolescent happiness** on the scale below: . . .
☐ Never Happy ☐ Rarely Happy ☐ Sometimes Happy ☐ Very Happy ☐ Extremely Happy

32. During the **past 30 days**, how many times did you get together with one or more friends or relatives?

32a. Friends/relatives visited at your home. ☐☐ times

32b. Got together with friends/relatives outside your home. ☐☐ times

33. About how many close friends do you have, people you feel at ease with and can talk to about personal problems? (Write in number). ☐☐ friends

34. In the past 30 days, how many days have you had serious conflicts with your family (such as with your spouse/sexual partner, mother, brother, sister, or other family member)? ☐☐ days

35. How troubled or bothered have you been in the past 30 days by family problems?
☐ Not at all ☐ Slightly ☐ Moderately ☐ Considerably ☐ Extremely

APPENDIX D

DATA USE AGREEMENT

DATA TRANSFER AGREEMENT

AGREEMENT FOR EXCHANGE BETWEEN VETERANS HEALTH ADMINISTRATION (VHA), VA PALO ALTO HEALTH CARE SYSTEM AND PEPPERDINE UNIVERSITY

Purpose:
This Agreement establishes the terms and conditions under which the VA PALO ALTO HEALTH CARE SYSTEM will provide, and DR. DAVID FOY AND HIS RESEARCH TEAM AT THE PEPPERDINE UNIVERSITY will collaborate on data analysis and publication. The following research information will be shared with Dr. Foy and his team for 360 days:

1) De-identified PTSD clinical data and mortality data on participants in the PTSD Residential Treatment program between the years 1990-2000. These data include patients' symptoms and functioning, demographics, and mortality status. **It includes no PHI.**
2) These data will be used for student dissertations (Kerri Schutz, Carrie Kelly, Anna Leshner) and possibly to collaborate on analysis and publication of VA research for 360 days. The study has IRB and R&D approval at the Palo Alto and is pending IRB approval at the Pepperdine site.

Any other uses will be subject to prior approval by the VA PALO ALTO HEALTH CARE SYSTEM Director, Dr. Elizabeth Freeman.

TERMS OF THE AGREEMENT:

1. This Agreement is by and between the Dr. David Foy of the Pepperdine University and the VA Palo Alto Health Care System, a component of the U.S. Department of Veterans Affairs.

2. This data transfer agreement covers the transfer and use of data by Dr. Foy and his research team and Dr. Craig Rosen and his team, for the project specified in this agreement. This Agreement supersedes any and all previous data.

3. The terms of this Agreement can be changed only by a written modification of the agreement by the agency signatories (or their designated representatives) to this Agreement or by the parties adopting a new agreement in place of this Agreement.

4. The VA PALO ALTO HEALTH CARE SYSTEM retains all ownership rights to the data file(s) and VHA retains all ownership rights to the VHA data file(s) provided to Dr. Foy under this Agreement.

5. Dr. David Foy and the Pepperdine University will be designed as custodians of the VA data for the VA PALO ALTO HEALTH CARE SYSTEM and will be responsible for complying with all conditions of use and for establishment and maintenance of security arrangements as specified in this Agreement to prevent unauthorized use and disclosure of the Owner's data provided under this agreement

The User agrees to notify the Owner within fifteen (15) days of any change of custodianship.

Technical Representative for VA PALO ALTO HEALTH CARE SYSTEM
Craig Rosen, Ph.D. 650-493-5000 x22812

Custodian for PEPPERDINE UNIVERSITY
David Foy, Ph.D. (818)-501-1611

6. The following named individuals are designated as their agencies' Points of Contact for performance of the terms of the Agreement.

Point-of-contact on behalf of VA PALO ALTO HEALTH CARE SYSTEM
Craig Rosen, Ph.D. 650-493-5000 x22812

Point-of-contact on behalf of PEPPERDINE UNIVERSITY
David Foy, Ph.D. (818)-501-1611

7. Except as VHA shall authorize in writing, the User shall not disclose, release, reveal, show, sell, rent, lease, loan, or otherwise grant access to the VHA data covered by this Agreement to any person beyond Dr. Foy's study team. The User agrees that, access to the data covered by this Agreement shall be limited to the minimum number of individuals who need the access to Owner's data to perform this Agreement.

8. The parties mutually agree that any derivative data or file(s) that is created from the original data may be retained by the User until the project specified in this DTA has been completed. The use of the data will be for the time period covered by the study entitled " **Mortality Among Treatment-Seeking Veterans and Community Controls (SQL 81002)** " for 360 days after the signing of this agreement. At the end of this period, Dr. Foy will return all data files used for analyses to Dr. Rosen at VHA. Dr. ROSEN may retain these de-identified files until the study is completed and the VA R&D protocol closed.

9. The Agreement may be terminated by either party at any time for any reason upon 30 days written notice. Upon such notice, the Owner will notify the User to destroy or return such data at Users expense using the same procedures stated in the above paragraph of this section.

10. The User will provide appropriate administrative, technical, and physical safeguards to ensure the confidentiality and security of the Owner's data and to prevent unauthorized use or access to it. VA sensitive information must not be transmitted by remote access unless VA-approved protection mechanisms are used. All encryption modules used to protect VA data must be validated by NIST to meet the currently applicable version of Federal Information Processing Standards (FIPS) 140 (See **http://csrc.nist.gov/cryptval/140-1/1401val.htm** for a complete list of validated cryptographic modules). Only approved encryption solutions using validated modules may be used when protecting data during transmission. Additional security controls are required to guard VA sensitive information stored on computers used outside VA facilities. All VA data must be stored in an encrypted partition on the hard drive and must be encrypted with FIPS 140 validated software. The application must be capable of key recovery and a copy of the encryption key(s) must be stored in multiple secure locations. Further, the User agrees that the

data must not be physically moved or transmitted in any way from the site indicated in item number 5 without first being encrypted and obtaining prior written approval from the data owner.

a. If the data user becomes aware of the theft, loss or compromise of any device used to transport, access or store VA information, or of the theft, loss or compromise of any VA data, Dr. Foy must immediately report the incident within one hour to inform Perry Ungson, Information Security Officer (650-493-5000 x 69909) and Dr. Elizabeth Freeman, Director (650-858-3939), VA PALO ALTO HEALTH CARE SYSTEM. The ISO will promptly determine whether the incident warrants escalation, and comply with the escalation requirements for responding to security incidents.

11. The authorized representatives of VHA and the Inspector General will be granted access to premises where the data are kept by the User for the purpose of confirming that the User is in compliance with the security requirements.

12. No findings, listing, or information derived from the data with or without identifiers, may be released if such findings. listing, or information contain any combination of data elements that might allow the deduction of a veteran without first obtaining written authorization from the appropriate System Manager or the person designated in item number 18 of this Agreement. Examples of such data elements include but are not limited to social security number, geographic indicator, age, sex, diagnosis, procedure, admission/discharge date(s), or date of death. The Owner shall be the sole judge as to whether any finding, listing, information, or any combination of data extracted or derived from its files provided under this Agreement identifies or WOULD, with reasonable effort, permit one to identify an individual or to deduce the identity of an individual. The Owners' review of the findings is for the sole purpose of assuring that data confidentiality is maintained and that individuals cannot be identified from the findings. The Owner agrees to make this determination about approval and to notify the User within two weeks after receipt of findings. The Owner may withhold approval for publication only if it determines that the format in which data are presented may result in identification of individual.

13. The User may not reuse the Owner's original or work file(s) for any other purpose.

14. In the event that the Owner determines or has a reasonable cause to believe that the User disclosed or may have used or disclosed any part of the data other than as authorized by this Agreement or other written authorization from the appropriate System Manager or the person designated in item number 18 of this Agreement, the Owner in its sole discretion may require the User to: (a) promptly investigate and report to the Owner the User's determinations regarding any alleged or actual unauthorized use or disclosure. (b) promptly resolve any problems identified by the investigation; (c) If requested by the Owner, submit a formal response to an allegation *d* unauthorized disclosure; and (d) if requested return the Owner's data files to the Owner. If the Owner reasonably determines or believes that unauthorized disclosure of the Owner's data in the· possession of User have taken, the Owner may refuse to release further data to the User for a period of time to be determined by the Owner, or may terminate this Agreement.

15. The User hereby acknowledges that criminal penalties under §1108(a) *d* the Social Security Act (42 U.S.C. §1306(a), including a fine not exceeding $10,000 or imprisonment not exceeding 5 years or both. May apply to disclosures of information that are covered by §1106 and that are not authorized by regulation or by Federal law. The User further acknowledges that criminal penalties under the Privacy Act (S U.S.C. §552a(i)(1) may apply if it is determined that the User, or any individual employed or affiliated therewith knowingly and willfully discloses Owner's data. Any person found guilty under the Privacy Act shall be guilty of a misdemeanor and fined not more than $5,000. Finally, the user acknowledges that criminal penalties may be imposed under 18 U.S.C. §641 if it is determined that the User, or any individual employed or affiliated with therewith, has taken or converted to his own use data file(s), or received the file(s) knowing that they were stolen or converted.

16. All questions of interpretation or compliance with the terms of this Agreement should be referred to the VHA official name in Item 18 (or his or her successor).

17. Authority for VHA to share this data for the purpose indicated is under the HIPAA Privacy Rule, Is 45 CFR 164.512(k)(6)(ii), under the Privacy Act is routine Use 30 In VA system *d* records, 121VA19, entitled National Patient Databases--VA and under 38 USC 5701(b)(3) and (e).

18. On behalf of both parties the individuals hereby attest that he or she is authorized to enter into this Agreement and agrees to all the terms specified herein.

2/1/2010

Transferring Responsible Official Date
Organization Transferring Data

Ph.D. 2/1/10

User Responsible Official Date
Organization Receiving Data

Concur / Non-Concur:

02/01/2010

Transferring Agency ISO Name Date
Organization

APPENDIX E

Literature Review (Written)

The following is a review of the existing literature on adverse childhood experiences, negative health-related outcomes, and mortality. This literature review was conducted for the following purposes: to investigate the relationship between ACEs and negative adulthood outcomes; to examine the association between a history of CSA and adulthood mortality; and to explore the relationship between ACES and negative adulthood outcomes in the veteran population.

Search Criteria

The search of the literature was limited to peer-reviewed, quantitative studies consisting of 30 or more participants. In addition, only those studies that were published within the last 25 years (1985-2010) were considered. Search terms included the following: child abuse, childhood sexual abuse (CSA), sexual abuse, Adverse Childhood Experiences (ACE), health, mortality, veterans, military, and combat. Articles that included two or more of these variables were given particular emphasis. The databases utilized for the search included PsychInfo, ScienceDirect, EBSCOhost, Academic Search Elite, PubMed, GoogleScholar, and PILOTS. A search of the literature using the afore-mentioned criteria yielded a total of 40 articles, the findings of which are summarized below.

Adverse Childhood Experiences and Health-Related Outcomes

An examination of the literature yielded 22 studies on the relationship between adverse childhood experiences and adulthood health. In all 22 of these studies, a significant relationship was found between ACES and negative health-related outcomes.

According to such research, adults with a history of adverse childhood experiences are more likely to have health problems (Anda, Croft et al., 1999; Anda, Felitti et al., 2006; Anda, Brown et al., 2008; Corso, Edwards, Fang, & Mercy, 2008; Felitti et al., 1998; Lang et al., 2006; Pitzner, McGarry-Long, & Drummond, 2000; Springer, Sheridan, Kuo, & Carnes, 2003; Surtees et al., 2003: Walker et al., 1999), engage in high-risk behaviors (Anda, Felitti et al., 2006; Bensley, Van Eenwyk, & Simmons, 2000; Dinwiddie et al., 2000; Dube, Anda, Felitti, Edwards, & Croft, 2002; Dube, Anda et al., 2001; Dube, Felitti et al., 2003; Felitti, et al., 1998; Hillis, Anda, Feliti, & Marchbanks, 2001; Holmes, 2008; Walker et al., 1999; Whitfield, Anda, Dube, & Felitti, 2003); and partake in health-compromising behaviors such as smoking (Anda, Croft. et al., 1999; Anda, Felitti et al., 2006).

Childhood Sexual Abuse and Negative Adulthood Outcomes

A review of the literature yielded four studies that specifically focused on the relationship between childhood sexual abuse and negative health-related outcomes in adulthood. The findings of all four studies revealed a significant relationship between childhood sexual abuse and negative outcomes related to health. More specifically, such research, conducted primarily on the general population, suggests that adults with a history of childhood sexual abuse are at a greater risk for engaging in high-risk behaviors related to health and well-being. This research indicates that a history of childhood sexual abuse is associated with substance abuse (Bensley et al., 2000; Dinwiddie et al., 2000; Dube et al., 2005; Saunders, Kilpatrick, Hanson, Resnick, & Walker, 1999), suicide attempts (Dinwiddie et al., 2000; Dube et al., 2005), and HIV-risk behaviors (Bensley et al., 2000).

Although such findings suggest an association between childhood sexual abuse and adulthood health in the general population, a review of the literature shows that very few studies have assessed this relationship in veterans. The only identified study explicitly examining this relationship among a veteran population appears to be that of Lang et al. (2006). This study utilized a sample of female veterans and examined multiple forms of childhood abuse, in addition to childhood sexual abuse. The researchers determined that individuals with a childhood history of sexual abuse were less likely to use health-care services (Lang et al., 2006). However, it is worth noting that this was the only finding specifically pertaining to childhood sexual abuse within the Lang et al. study. A review of the literature, therefore, suggests that at present there is a dearth of research examining the relationship between childhood sexual abuse and adulthood health among veterans.

Childhood Sexual Abuse and Mortality

Within the literature assessing the relationship between childhood sexual abuse and negative outcomes in adulthood, there also currently appears to be a paucity of research focusing on childhood sexual abuse as it relates to mortality. Although a number of studies within this area have examined factors that could lead to mortality, including high-risk behaviors, a review of the literature reveals that, to date, only one identified study has assessed the relationship between childhood sexual abuse and adulthood mortality. This study, by White and Widom (2003), did not find a significant association between childhood sexual abuse and mortality in adulthood. However, the study sample was limited to participants whose abuse had been substantiated by a county social service agency and whose abuse occurred prior to the age of 12. Therefore, the

study did not assess the relationship in individuals whose abuse was unreported or in individuals who experienced sexual abuse as a teenager. Furthermore, the researchers only followed participants into early adulthood. Moreover, within their study, White and Widom (2003) utilized a civilian population and, therefore, did not assess the relationship between childhood sexual abuse and adulthood mortality in a veteran population. Therefore, a review of the literature suggests that, at present, little is known about this relationship as it relates to veterans, nor as it relates to specific subgroups within the veteran population such as veterans with combat-related PTSD.

Childhood Sexual Abuse in Veterans with PTSD

An examination of the existing literature yielded two studies on the prevalence of childhood sexual abuse among veterans with PTSD. Such studies found that 22-41% of male veterans with combat-related PTSD report a childhood history of sexual abuse (Lapp et al., 2005; Metz, 2008) compared to the 16% of men in the general population who report such abuse (Finkelhor, Hotaling, Lewis, & Smith, 1990). Such findings, therefore, suggest that veterans with PTSD report a significantly higher rate of childhood sexual abuse than do individuals in the general population.

Mortality in Veterans with PTSD

Among the literature reviewed, eight studies examined rates of mortality among veterans with PTSD. Such research reveals that the mortality rate for veterans with PTSD is not only higher than that of the age-adjusted population (Crawford, Drescher, & Rosen, 2009; Drescher, Rosen, Burling, & Foy, 2003; Girod, 2006; Schafter, 2007), but is also greater than that of other veterans (Boscarino, 2006a; Boscarino, 2006b). Furthermore,

the research in this area also suggests that veterans with PTSD have an elevated rate of mortality from unnatural causes, such as suicides, drug overdoses, and traffic accidents (D'Angelo, 2002). In fact, according to such research, veterans with PTSD are more likely to die of unnatural causes than are other veterans (Boscarino, 2006a; Boscarino, 2006b; Bullman & Kang, 1994) or individuals in the age-adjusted population (Drescher et al., 2003; Schafer, 2007).

Summary

A total of 40 articles were identified that pertained to the variables of interest in the present study. Of the 22 identified studies assessing the link between adverse childhood experiences and negative health-related outcomes, all 22 revealed significant relationships. Four studies that assessed the relationship between CSA and negative outcomes in adulthood were identified, with all four studies yielding significant associations. Similarly, a significant association between CSA and adulthood health was also found in the one identified study assessing this relationship among veterans. A review of the literature produced only one identified study examining the link between CSA and mortality. However, this study, which utilized a civilian sample, did not yield any significant findings. Of the two identified studies exploring the prevalence of childhood sexual abuse among veterans with PTSD, both studies found that the prevalence of CSA is elevated in this population. The literature review produced eight studies on the mortality rates of veterans with PTSD, with such research indicating that such veterans have elevated rates of early mortality and increased rates of death from behavioral causes.

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APPENDIX F

Literature Review (Tabled)

Author/ Year	Population/ Sample	Research Objective	Variable Measures			Relevant Findings/Limitations
			Child Abuse	**Health Problems/ Mortality**	**Other**	
Anda, Brown, Dube, Bremner, Felitti, & Giles (2008)	17,337 adult male & female HMO members	To assess the relationship between adverse childhood experiences & the development of Chronic Obstructive Pulmonary Disease (COPD) in adulthood	• Adverse Childhood Experiences Scale (ACE)	• Self-reported COPD • Hospital discharge records • Use of medications used to treat COPD	"Current smokers"- those who had smoked ≥ 100 cigarettes during their lifetime & who were currently smoking; "former smokers"- those who has smoked ≥ 100 cigarettes in their lifetime but who were not currently smoking	• Prevalence & risk of COPD increased in a graded fashion as ACE score increased • Risk of being hospitalized for COPD increased in a graded fashion as ACE score increased • Rates of COPD medication use increased as ACE score increased • Associations were only partially mediated by smoking & all associations were found in both smokers & non-smokers • Limitations: Self-reported COPD variable may have been affected by participant biases
Anda, Croft, Felitti, Nordenberg, Giles, Williamson, & Giovino (1999)	9,215 adult HMO members	To examine the relationship between adverse childhood experiences & smoking behaviors	• Adverse Childhood Experiences (ACE) Scale	None	• Early smoking initiation: regularly smoking cig. by age 14 • Ever Smoked: having smoked at least 100 cig. • Heavy smoker: currently smoking 20 or more cig. per day • Current smoking status • Age at initiation • Parental Smoking • Question from the SCID re: depressed affect	• With the exception of physical abuse, females were more likely than males to report each type of ACE • Each of the ACEs was significantly associated with the smoking behaviors • Strong graded relationships were found between the number of categories of adverse childhood experiences & each of the smoking behaviors • The number of adverse childhood experiences was positively correlated with recent depressed affect • Smokers were more likely to have experienced recent problems with depressed affect than were non-smokers • Limitations: possible inaccuracies due to self-report data & retrospective recall

Author/ Year	Population/ Sample	Research Objective	Variable Measures			Relevant Findings/Limitations
			Child Abuse	**Health Problems/ Mortality**	**Other**	
Anda, Felitti, Bremner, Walker, Whitfiled, Perry, Dube, & Giles (2006)	17,337 adult male and female HMO members	To demonstrate the convergence between epidemiologic and neurobiological effects of childhood trauma	• Adverse Childhood Experiences Scale (ACE)	None	• Survey-defined mental health disturb. • Survey -defined somatic disturb.; • Survey-defined SA • Survey-defined sexuality • Survey-defined impaired memory in childhood; • Survey-defined perceived stress, anger control, & risk of IPV;	• The ACE score had a strong graded relationship to the prevalence and risk of affective disturbances; somatic disturbances,; substance use/abuse; issues in sexuality; impaired memory in childhood; perceived stress; difficulty controlling anger; and the risk of perpetrating intimate partner violence • As the ACE score increased, the mean number of comorbid outcomes increased in a graded fashion • Limitations: the data was based on retrospective recall and self-report. As a result, there may have been some inaccuracies due to underreporting or over-reporting
Bensley, Van Eenwyk, & Simmons (2000)	3,473 English-speaking civilian adults residing in Washington State	To assess the relationship between childhood abuse & high-risk behaviors (i.e., heavy drinking, HIV- risk behaviors) in adulthood	• Question re: physical abuse by a parent or guardian prior to age 18 • Question re: being touched in a "sexual place "against one's will prior to the age of 18 & a follow up question re: freq.	None	• HIV-Risk Behaviors: a "yes" response to any high risk behaviors listed • Two questions re: freq. of alcohol consumption • Questions about demographics	• Women who had been sexually abused or both sexually abused & physically abused had a sig. higher rate of HIV-risk behaviors • Men who had either been sexually abused or physically abused had a sig. higher rate of HIV-risk behaviors • Women who had been both sexually abused & physically abused had a sig. higher rate of heavy drinking • Men who had been physically abused had a sig. higher rate of heavy drinking • Limitations: Self-report data & use of retrospective recall; limited generalizability due to a low response rate & the exclusion of non-English speakers/individuals w/o telephones

Author/ Year	Population/ Sample	Research Objective	Variable Measures			Relevant Findings/Limitations
			Child Abuse	**Health Problems/ Mortality**	**Other**	
Berger, Knutson, Mehm, & Perkins (1988)	Two studies: Study 1: 4,695 male & female university students Study 2: 34 adolescents who received various services from a rural social services agency (Group 1: adolescents with documented physical abuse; Group 2: adolescents with documented physical & sexual abuse; Group 3: adolescents with no documented abuse)	Study 1: To assess the prevalence of abusive childhood disciplinary experiences in a non-clinical adult sample Study 2: To assess the validity of the AEIII	Study 1: • Assessing Environments II (AEII) • Assessing Environments III (AEIII) • Emphasis on the Physical Punishment (PP) Scale of the AEII & the AE III Study 2: • The AEIII PP Scale • The number of objects struck with in a disciplinary context (taken from the PP scale) • The number of injuries sustained as a result of discipline (taken from the PP scale)	None	None	Study 1: • Many of the participants reported experiencing disciplinary activities during childhood that could be considered abusive • Over 12% of the participants reported being physically injured by the discipline they received in childhood • However, less than 3% of the sample labeled themselves as being physically abused as a child, suggesting that most of the participants who met the criterion for having been physically abused during childhood failed to label themselves as such • Limitations: the data sample had outliers that could have inflated the results. However, the researchers assessed for this, & the results did not seem to be affected by the outliers Study 2: • The abused adolescents differed significantly from the non-abused adolescents on all of the study variables • The majority of the physically abused adolescents did not describe themselves as having been physically abused • Limitations: small sample size

Author/ Year	Population/ Sample	Research Objective	Variable Measures			Relevant Findings/Limitations
			Child Abuse	Health Problems/ Mortality	Other	
Boscarino (2006a) Posttraumatic Stress Disorder & Mortality Among U.S. Army Veterans 30 Years After Military Service	15, 288 male U.S. Army veterans	To assess whether posttraumatic stress disorder is associated with later mortality	None	• Department of Veterans Affairs Beneficiary Identification Record Locator Subsystem death file • The Social Sec. Administration Death Master File • The National Death Index Plus • Causes of death coded using the ICD	• Phone interview completed by Research Triangle Institute (RTI), including questions about PTSD sxs, health status, smoking, & military background	• Vietnam theatre vets had a higher rate of PTSD than did Vietnam era vets • For Vietnam theatre vets, PTSD-positive status was associated with higher rates of all-cause mortality & external-cause mortality • Similarly, PTSD-positive status was also associated with higher rates of all-cause mortality & external-cause mortality in Vietnam era vets • Limitations:; the RTI-PTSD scale used was based on an earlier version of the PTSD nomenclature & ; the RTI-PTSD scale may have lacked sensitivity
Boscarino (2006b) External-Cause Mortality After Psychologic Trauma: The Effects of Stress Exposure & Predisposition	15, 288 male Vietnam-era US Army veterans	To assess trends in mortality among veterans with PTSD	None	• Dept. of Veterans Affairs Beneficiary Identification Record Locator Subsystem death file • Social Sec. Administration Death Master File • The National Death Index Plus • Causes of death coded using the ICD-9 criteria	• Phone interview completed by Research Triangle Institute (RTI), including questions about PTSD sxs, health status, smoking, & military background	• Vietnam theatre vets had a higher rate of PTSD than Vietnam era vets • PTSD-positive status was assoc. w/ higher rates of all-cause mortality & external cause-mortality in both Vietnam theatre vets & Vietnam era vets • PTSD-positive theatre vets were more likely to die from violent or self-inflicted deaths • Theatre vets who volunteered for Vietnam, & theatre vets who had been dishonorably discharged were at increased risk for external-cause mortality • Limitations: the study did not include a non-PTSD comparison group; generalizability; the study did not assess earlier traumas that may have affected the results

Author/ Year	Population/ Sample	Research Objective	Variable Measures			Relevant Findings/Limitations
			Child Abuse	**Health Problems/ Mortality**	**Other**	
Boscarino (2008)	4, 328 males who served in the Army during the Vietnam war	To examine the relationship between PTSD & heart disease mortality among Vietnam-era veterans	N/A	• Vital status & cause of death- obtained from the Department of Veterans Affairs Beneficiary Identification Record Locator Death File, the Social Security Administration Death Master File, & the National Death Index-Plus (NDI Plus) file	• PTSD- measured by 15 self-report items based on the DSM-III criteria & also measured by the Keane PTSD (K-PTSD) scale • Combat exposure- measured by the Combat Exposure Index	• Having PTSD was prospectively associated with mortality from heart disease among participants who were free of heart disease at baseline, even after controlling for heart disease risk factors. • PTSD severity was found to be associated with a higher rate of heart disease mortality • Limitations- the PTSD measures were based on the DSM-III criteria rather than the DSM-IV criteria; possible inaccuracies due to self-report data; inaccuracies in reported causes of death; other potentially confounding factors were not controlled; the author eliminated only major heart disease cases from the study (not borderline cases), thereby possibility confounding the study results
Bremner, Southwick, Johnson, Yehuda, & Charney (1993)	66 Vietnam combat veterans seeking treatment at a VA hospital	To compare childhood abuse rates in Vietnam combat veterans with & without combat-related PTSD	• Checklist Of Stressful & Traumatic Events	None	• SCID for DSM-III, to assess PTSD • Mississippi Scale for Combat-Related PTSD • Brief Symptom Inventory-Global Index • Combat Exposure Scale • Addiction Severity Index Helzer Index	• The participants with PTSD reported significantly higher rates of childhood physical abuse & sexual abuse • Participants with PTSD reported experiencing a greater number of traumatic events prior to enlisting in the military than did participants without PTSD • Limitations: small sample size; small number of participants who reported who reported experiencing childhood abuse; use of self-report measures/retrospective recall may have led to inaccurate reporting; generalizability-sample was limited to male Vietnam combat veterans

Author/ Year	Population/ Sample	Research Objective	Variable Measures			Relevant Findings/Limitations
			Child Abuse	**Health Problems/ Mortality**	**Other**	
Breslau, Chilcoat, Kessler, & Davis (1999)	2, 181 adults (ages 18-45) in southeast Michigan	To assess whether previous exposure to trauma impacts psychological reactions to subsequent trauma.	• Assessed *within* a measure of lifetime traumatic events	N/A	• PTSD- assessed using a modified version of the National Institute of Mental Health Diagnostic Interview Schedule for DSM-IV (DIS) & the World Health Organization Composite International Diagnostic Interview • Lifetime traumatic events experienced	• Previous exposure to trauma was associated with a greater risk of PTSD following subsequent traumas • Multiple previous traumas were more strongly associated with later development of PTSD than were single previous traumas • Exposure to assaultive violence was strongly associated with the later development of PTSD • Limitations: possible inaccuracies due to self-report data & retrospective recall
Cabrera, Hoge, Bliese, Castro, & Messer (2007)	2,392 male active duty soldiers who had previously been deployed to Iraq & 4,529 male active duty soldiers who had never been deployed to Iraq	To assess the relationship between adverse childhood experiences, combat exposure, PTSD, & depression	• A modified Version of the Adverse Childhood Experiences (ACE) Scale		• Depression- measured by the Patient Health Questionnaire (PHQ) • PTSD- measured by the Posttraumatic Stress Disorder Checklist (PCL) • Combat Exposure- assessed with 29 questions about combat exposures	• Individuals reporting 2 or more adverse childhood experiences were at increased risk for depression & PTSD • Among the post-Iraq sample, adverse childhood experiences were a stronger predictor of depression & PTSD than was combat exposure • Limitations: possible inaccuracies due to self report data & retrospective recall

Author/ Year	Population/ Sample	Research Objective	Variable Measures			Relevant Findings/Limitations
			Child Abuse	**Health Problems/ Mortality**	**Other**	
Chapman, Whitfield, Felitti, Dube, Edwards, & Anda (2004)	9,460 adult HMO members	To examine the relationship between adverse childhood experiences & the risk of depressive disorders in adulthood	• Adverse Childhood Experiences Scale (ACE)	None	• Depressive disorders screening instrument taken from the Medical Outcomes Study	• The number of ACEs had a graded relat. to both lifetime & recent depressive disorders • This relat. was weakened slightly when a history of growing up w/ a mentally ill family member was included in analysis • Limitations: The duration of each ACE was not examined; the temporal relat. between the ACES & lifetime depressive disorders is unclear
Collings (1995)	284 male undergraduate students in South Africa	To examine the long-term effects of childhood sexual abuse	• Sexual abuse defined as unwanted sexual experiences of either a contact or non-contact nature that occurred before the age of 18	None	• Brief Symptom Inventory (BSI) • Parental rearing behavior as measured by the "abusive" & "rejecting" subscales of the EMBU • Family Background & victim demographics	• Contact sexual abuse was associated w/ elevated scores on all of the subscales of the BSI • Individuals who experienced contact abuse differed sig. from non-abused individuals on all of the BSI measures • Individuals who experienced non-contact abuse did not differ sig. from non-abused individuals on outcomes • Limitations: limited generaliazabiltiy of the findings; possible inaccuracies do to self-report data & retrospective recall
Corso, Edwards, Fang, & Mercy (2008)	6, 168 adult HMO members	To compare adults with a history of adverse childhood experiences to adults without a history of such experiences on measures of health & quality of life	• Adverse Childhood Experiences (ACE) Scale	• Medical Outcomes Study 36-Item Short Form Health Survey (SF-36)	• Demographics • Health-risk behaviors • Disease history	• Individuals who experienced childhood mistreatment had sig. & sustained losses in health-related quality of life in adulthood compared to individuals who did not experience such mistreatment • Individuals who reported any form of childhood mistreatment had a yearly loss of 11 days of quality of life • Limitations: Use of self report data & retrospective recall; limited generalizability

Author/ Year	Population/ Sample	Research Objective	Variable Measures			Relevant Findings/Limitations
			Child Abuse	**Health Problems/ Mortality**	**Other**	
D'Angelo (2002)	1500 Vietnam Veterans who received residential treatment for PTSD	To examine mortality rates, predictors of mortality, & causes of death in Vietnam veterans with combat-related PTSD	N/A	• Vital status- ascertained from the Social Security Master Death File • Cause of death ascertained from death certificates	• Alcohol Dependence Scale • Beck Depression Inventory	• The most common causes of death were accidental poisonings, motor vehicle accidents, suicides, homicides, chronic liver disease, & acute myocardial infarction • There were no psychiatric predictors of mortality • Limitations- use of archival data; inability to determine causality; small sample size; limited generalizability of findings; possible inaccuracies in the causes of death reported on death certificates
Dietz, Spitz, Anda, Williamson, McMahon, Santelli, Nordenberg, Felitti, & Kendrick (1999)	1193 women ages 20-50 whose first pregnancy occurred at 20 years old or after	To assess the relationship between child abuse & unintended pregnancy in adulthood	• The Adverse Childhood Experiences (ACE) Scale	N/A	• Unintended Pregnancy • Age at first pregnancy • Marital status at first pregnancy • Age at first sexual intercourse • Demographic variables	• Almost 30% of the participants reported being sexually abused during childhood • More that 45% of the participants reported that their first pregnancy was unintended • A history of childhood abuse was positively associated with unintended pregnancy during adulthood • Unintended pregnancy was most strongly associated with psychological abuse, physical abuse, & witnessing domestic violence • Women who reported 4 or more types of adverse childhood experiences were 1.5 times more likely to report an unintended pregnancy during adulthood than were women who did not report any adverse childhood experiences • Limitations- possible inaccuracies due to self report data & retrospective recall; limited generalizability of the findings

Author/ Year	Population/ Sample	Research Objective	Variable Measures			Relevant Findings/Limitations
			Child Abuse	**Health Problems/ Mortality**	**Other**	
Dinwiddie, Heath, Dunne, Bucholz, Madden, Slutske, Bierut, Statham, & Martin (2000)	5995 adult Australian twins	To compare rates of psychiatric disorder among adults with & without a history of childhood sexual abuse	• Sexual abuse, defined as being "forced into sexual activity, including intercourse" prior to the age of 18	None	• DSM-III diagnoses & lifetime history of psychiatric symptoms as measured by the SSAGA • History of suicidal ideation & suicide attempts • Family hx of psychiatric symptoms	• Abused women has elevated rates of all psych. disorders while abused men had elev. rates of all disorders but social phobia • Abused individuals were more likely to report suicidal ideation & a history of suicide attempts • Rates of major depression, conduct disorder, & suicidal ideation were higher if both twins were abused than if only the respondent was abused • For women, shared environmental factors influenced risk of child sexual abuse • Limitations: Limited defin. of sexual abuse; char. of the sexual abuse were not assessed
Drescher, Rosen, Burling, & Foy (2003)	1,866 male veterans treated in an inpatient PTSD program	To examine mortality trends in veterans with PTSD	None	• Social Security Death Index • National Death Index (NDI) • Causes of death coded using the (ICD-9) criteria	• Structured Clinical Interview for DSM-IIIR & DSM-IV (SCID)	• Mortality rate of the sample was sig. higher than that of the age-adjusted general pop. • The majority (62.4%%) of the deaths among the sample were due to behav. causes • Over one third (37.6%) of the deaths among the sample were the result of substance use • Limitations: Did not include a non-PTSD comparison group; limited generalizability
Dube, Anda, Felitti, Chapman, Williamson, & Giles (2001)	17,337 adult HMO members	To assess the relationship between adverse childhood experiences & risk of attempted suicide	• Adverse Childhood Experiences Scale (ACE)	None	• Self-reported suicide attempts • Risk factors for suicide (i.e., depressed affect; substance use	• ACEs increased the risk of attempted suicide two to five fold. • The ACE score had a strong graded relationship to attempted suicide throughout the lifespan. • The relationship between ACEs & attempted suicide was partially mediated by substance use & depressed affect. • Limitations: Reliance on retrospective recall; the temporal relationship between the ACEs & reported suicide attempts is unclear

Author/ Year	Population/ Sample	Research Objective	Variable Measures			Relevant Findings/Limitations
			Child Abuse	**Health Problems/ Mortality**	**Other**	
Dube, Anda, Felitti, Edwards, & Croft (2002)	8, 629 adult male & female HMO members	To evaluate the contribution of adverse childhood experiences to the risk of adult alcohol abuse	• Adverse Childhood Experiences Scale (ACE)	None	• Alcohol use/misuse: heavy drinker"- at least 14 drinks per week during any 10 yr period; "self-reported alcohol abuse"; "self-reported alcoholic"; "ever married an alcoholic"	• The ACES showed a strong graded relationship to the measures of alcohol misuse/abuse for both participants with a parental history of alcoholism & participants without a history of alcoholism • For each ACE, the increase in the prevalence of alcohol abuse was highest among participants with a parental history of alcohol abuse • Limitations: the possible underreporting of alcohol use/abuse, ACEs, & parental alcohol abuse by participants
Dube, Anda, Felitti, Edwards, & Williamson (2002)	17, 337 adult male & female HMO members	To assess the relationship between adverse childhood experiences & witnessing intimate partner violence (IPV)	• Adverse Childhood Experiences Scale (ACE)	None	• Questions from the Conflict Tactics Scale (CTS) that pertain to witnessing domestic violence • Questions pertaining to substance abuse & depressed affect in adulthood	• There was a powerful graded relationship between witnessing IPV violence during childhood & experiencing other adverse childhood experiences, such that the risk of adverse childhood experiences significantly increased as the freq. of witnessing IPV increased • There was a graded relationship between witnessing IPV & self-reported alcoholism, illicit drug use, IV drug use, & depressed affect, such that the risk of substance use & depressed affect significantly increased as freq. of witnessing IPV increased • Limitations: Retrospective reporting; the lower number of childhood exposures reported among the older participants may have led to an underestimation of the relationship between variables; it is unclear as to whether the ACE items are the true outcome variables or whether witnessing IPV is the true outcome variable

Author/ Year	Population/ Sample	Research Objective	Variable Measures			Relevant Findings/Limitations
			Child Abuse	**Health Problems/ Mortality**	**Other**	
Dube, Felitti, Dong, Chapman, Giles, & Anda (2003)	8,613 adult HMO members	To assess the relationship between adverse childhood experiences & lifetime illicit drug use	• Adverse Childhood Experiences Scale (ACE)	None	• Lifetime illicit drug use • Age at first drug use • Other drug use variables (i.e., drug problem, drug addict, IV drug use)	• The ACE score had a strong graded relat. to initiation of drug use, drug problems, drug addition, parenteral drug use, & lifetime drug use • Each ACE was associated with a two to four fold increase in the likelihood of early drug use • Limitations: The retrospective nature of the study may have led to inaccurate reporting; the lower number of childhood exposures reported among the older participants may have led to an underestimation of the relat. between variables; the temporal relat. between the ACEs & drug use is unclear
Dube, Anda, Whitfield, Brown, Felitti, Dong, & Giles (2005)	17,337 adult HMO members	To examine the consequences of childhood sexual abuse in both men & women	• Adverse Childhood Experiences Scale (ACE) • Gender of perpetrator	None	• Self-reported alcohol problems • Lifetime use of illicit drugs • Ever attempted suicide • Current depression (taken from Medical Outcomes Study) • Marriage to an alcoholic • Current marital problems Current family problems	• 25% of the female participants & 16% of the male participants reported childhood sexual abuse • Participants with a history of childhood sexual abuse were at an increased risk for alcohol problems, illicit drug use, suicide attempts, depression, marital problems, family problems, & marrying an alcoholic • For both men & women, there was an increased risk of negative outcomes if the childhood sexual abuse involved intercourse • Nearly 40% of the childhood sexual abuse among men & 6% of the childhood sexual abuse among women was committed by a female perpetrator • For male participants, the risk for negative outcomes was similar when the perpetrator was a male as compared to a female • Limitations: the retrospective nature of the study may have led to inaccurate reporting

Author/ Year	Population/ Sample	Research Objective	Variable Measures			Relevant Findings/Limitations
			Child Abuse	Health Problems/ Mortality	Other	
Dube, Williamson, Thompson, Felitti, & Anda (2004)	658 male & female adult HMO members	To assess the reliability of retrospective reports of adverse childhood experiences	• Adverse Childhood Experiences (ACE) questionnaire	N/A	N/A	• For each component question of the ACE Questionnaire, for each ACE category, & for the ACE score, the kappa coefficients demonstrated good-substantial agreement. • The results suggest that there is good to excellent reliability in the retrospective reports of adverse childhood experiences • Limitations- the study does not address whether or not there was a change in reporting from childhood to adulthood.
Edleson (1999)	N/A: The article was a review of 35 studies that assessed the overlap between child maltreatment & adult DV in families	To examine the relationship between child abuse & domestic violence within families	N/A	N/A	N/A	• The majority of studies examined revealed that in 30% to 60% of families where child abuse or DV is occurring, the other form of violence is also occurring • The majority of perpetrators of child abuse are women whereas the majority of perpetrators of domestic violence are men • Men are the perpetrators of the most harsh forms of child abuse • Limitations: in many of the studies reviewed, there were methodological flaws
Felitti, Anda, Nordenberg, Williamson, Spitz, Edwards, Koss, & Marks (1998)	9,508 adult male & female HMO members	To examine the relationship between averse childhood experiences & disease/ health risk behaviors in adulthood	• Adverse Childhood Experiences Scale (ACE)	• Health Appraisal Clinic Questionnaire • Items taken from the Behavioral Risk Factor Surveys & the Third National Health & Nutrition Examination Survey	None	• A strong dose response relat. was found between ACEs & a number of diseases/ health risk behaviors in adulthood (i.e., substance abuse, obesity, depressed mood, suicide, physical inactivity, promiscuity, STDs, heart disease, cancer, chronic bronchitis or emphysema, hepatitis, skeletal fractures, poor self-related health) • Limitations: data was based on self-report/retrospective recall; additional variables that could possibly serve as mediators between ACEs & health-risk behaviors were not assessed

Author/ Year	Population/ Sample	Research Objective	Variable Measures			Relevant Findings/Limitations
			Child Abuse	**Health Problems/ Mortality**	**Other**	
Finkelhor, Hotaling, Lewis, & Smith (1990)	1,145 men & 1,481 women living in the United States	To examine the prevalence & characteristics of childhood sexual abuse in the United States as well as the risk factors associated with such abuse	• Four self-report items pertaining to contact & non-contact sexual abuse prior to the age of 19	None	• Questions re: family background, childhood, & demographics	• A history of CSA was reported by 27% of the female participants & 16% of the male participants • Males were more likely to be abused by a stranger whereas females were more likely to be abused by a family member • For both male & female victims, the perpetrator was usually a male • The risk factors for males included growing up in an unhappy family, living for a period of time w/ just one's mother, residing in the western part of the US, & coming from an English or Scandinavian background • The risk factors for females included growing up in an unhappy family, living for a period of time w/o one of one's biological parents, receiving inadequate sex education, residing in the western part of the US, & being born after 1925. • Limitations: the reliance on retrospective recall may have led to inaccurate reporting; the sexual abuse screening questions were imprecise

Author/ Year	Population/ Sample	Research Objective	Variable Measures			Relevant Findings/Limitations
			Child Abuse	**Health Problems/ Mortality**	**Other**	
Gahm, Lucenko, Retzlaff, & Fukuda (2007)	1,626 male & female active duty soldiers presenting at an outpatient mental health clinic	To assess the relationship between adverse childhood experiences & PTSD/depression among an active duty clinical population	• Adverse Childhood Experiences Scale (ACE) items (did not include questions pertaining to incarcerated family member, parental divorce, & neglect)	• Items from the Deployment Risk & Resilience Inventory (DDRI) (assesses long term health in veterans)	• Mental health screening question. (demograh, military info, current sxs, etc) • Primary Care PTSD screen (PC-PTSD) • Patient Health Questionnaire (PHQ-9), a self-report measure of depression	• A large percentage of soldiers reported experiencing physical abuse (60.8%) & witnessing violence between their parents (45.2%) during their childhood • 11.6% of participants reported experiencing childhood sexual abuse • The number of adverse childhood experiences was a significant predictor of screened PTSD & depression • A history of combat exposure significantly predicted screened PTSD, but not depression • The women in the sample were more likely to meet criteria for PTSD & depression • Guard & Active Guard members had a higher probability of meeting the criteria for screened PTSD • Active Duty Army members & Guard/Active Guard members had a higher probability of meeting the screening criteria for depression • Limitations: the PC-PTSD & the PHQ-9 have not been validated with active duty military personnel; the measures used were screening tools rather than diagnostic measures; the measures may have been affected by social desirability; the retrospective recall of adverse childhood experiences may have led to inaccurate reporting

Author/ Year	Population/ Sample	Research Objective	Variable Measures			Relevant Findings/Limitations
			Child Abuse	Health Problems/ Mortality	Other	
Hanson, Saunders, Kilpatrick, Resnick, Crouch, & Duncan (2001)	National probability sample of 4,008 (weighted) women	To investigate the relationship between childhood rape/aggravated assault & adult mental health	• Completed child rape- forced vaginal sex, anal sex, oral sex or other penetration prior to the age of 18 • Nature of sexual assault (age, perp, freq., perception of life threat, extent of physical injury, involvement of drugs/alcohol, whether assault was ever reported) • History of childhood aggravated assault (w/ intent to kill or seriously injure) prior to age 18 • Nature of aggravated assault	N/A	• History of other traumatic events-computed as a continuous variable (range 0-4) • History of MDD assessed using the Structured Clinical Interview for DSM-III R • PTSDassessed w/ the National Women's Study PTSD module	• Victims were significantly more likely to meet criteria for both lifetime & current PTSD & MDD than were non-victims • Victims with a history of both types of assault were more likely to meet criteria for PTSD & MDD than were victims of a single abuse type • The aggravated assault group was significantly more likely to meet criteria for PTSD than the rape group, suggesting that aggravated assault, alone or with rape, presents the most significant risk factor for PTSD • Aggravated assault & physical injury (during the assault or rape) were the most significant predictors of PTSD • Limitations- possible biases &inaccuracies due to retrospective recall; reliance on self-report measures; less extreme forms of abuse (physical or sexual) were not examined; limited generalizability of findings

Author/ Year	Population/ Sample	Research Objective	Variable Measures			Relevant Findings/Limitations
			Child Abuse	**Health Problems/ Mortality**	**Other**	
Hillis, Anda, Felitti, & Marchbanks (2001)	5, 060 adult female HMO members	To examine the relationship between child abuse & high-risk sexual behaviors in adult women	• The Adverse Childhood Experiences (ACE) Scale	N/A	• Age at first Intercourse • Lifetime number of sexual partners • Concern that one is at risk for AIDS	• More than half of the participants reported at least one adverse childhood experience • Each type of adverse childhood experience studied was associated with an increased risk of early onset sexual intercourse, having a large number of sexual partners, & self-perceived risk of AIDS • The risk of early onset sexual intercourse, having 30 or more sexual partners, & feeling that one is at risk of having AIDS increased as the number of types of adverse childhood experiences increased • A higher freq. of adverse childhood experiences was associated with an increased risk of high-risk sexual behaviors in adulthood • Limitations- possible inaccuracies due to self report data & retrospective recall; the limited generalizability of the findings; the researchers did not assess the use of condoms; inability to determine the temporal sequence between adverse childhood experiences & high-risk sexual behaviors

Author/ Year	Population/ Sample	Research Objective	Variable Measures			Relevant Findings/Limitations
			Child Abuse	**Health Problems/ Mortality**	**Other**	
Holmes (2007)	197 heterosexual, bisexual, & gay men in Philadelphia County	To assess how males with a history of abusive childhood sexual experiences define such experiences & to examine if such definitions are associated with high-risk behavioral & psychiatric outcomes in adulthood	• Four questions about sexual experiences prior to the age of 18 that could be considered abusive • Follow-up questions asking about age of onset, duration, & perpetrator • Follow-up questions asking whether participants consider such experiences to be abusive & why/why not	• Sexually transmitted disease history (assessed using a "yes/no" format) • Number of lifetime sexual partners (since the age of 18)	• Phone Interview (demographic data , etc) • Parental Bonding Instrument (PBI) • Post-Traumatic Stress Diagnosis Scale (PDS) • Center For Epidemiologic Studies Depression scale (CES-D)	• 22% of the participants reported childhood sexual experiences that could be considered abusive • Of the participants who reported childhood experiences that could be considered abusive, 65% defined such events as abusive ("Definers") while 35% did not define such events as abusive ("Non-Definers) • Non-Definers typically reported that they did not consider such experiences abusive because they had consented • More Non-Definers reported having experienced penetrative sex as part of their childhood sexual experience than did Definers • Non-Definers reported a higher mean number of lifetime sexual partners & more freq. sex under the influence than Definers • Heterosexual Non-Definers reported a higher rate of STDs than did heterosexual definers • Heterosexual Definers reported more PTSD symptoms than did heterosexual Non-Definers • Limitations: small N; use of self-report measures/retrospective recall ; generalizability
Kendall-Tackett (2002)	Literature review	To discuss various pathways through which childhood abuse can affect physical & mental health	N/A	N/A	N/A	• The author proposes that CSA puts people @ risk for mh issues, participating in harmful activities, relat. problems, & neg. cognitions. The author states that these issues, in turn, increase the likelihood of adulthood health problems. • Limitations: Did not use original data

Author/ Year	Population/ Sample	Research Objective	Variable Measures			Relevant Findings/Limitations
			Child Abuse	**Health Problems/ Mortality**	**Other**	
Kinder, Bradley, Katon, Ludman, McDonell, & Bryson (2008)	35, 715 VA primary care patients	To examine the relationships between depression, PTSD, & all-cause mortality	None	• Mortality- assessed using the VA's Beneficiary Identification & Records Locator System & the Veterans Health Information Systems & Technology Architecture (VISTA) • Ambulatory Care Quality Improvement Project (ACQUIP) Health Checklist	• Depression- determined from electronic administrative data, self-report of prior diagnosis, or Health Checklist item indicating a prior diagnosis of depression • Current depressive symptomatology as measured by the Mental Health Inventory (MHI-5) • PTSD- determined from electronic administrative data, self-report of prior diagnosis, or Health Checklist item indicating a prior diagnosis of PTSD	• A history of depression was found to be the greatest predictor of mortality • Individuals with severe depression or current depression had the greatest risk of mortality • A history of PTSD was not found to be associated with later mortality • Although individuals with a history of both depression & PTSD appeared to be at a greater risk of mortality, this association was no longer significant after controlling for medical comorbidities. Furthermore, such individuals were not at a greater risk of death than those individuals with depression alone • Limitations: Unlike depression, current PTSD symptoms were not assessed; the duration of depression & the duration of PTSD were not assessed; the MHI-5 may actually measure general distress rather than depression; cause of death was not examined

Author/ Year	Population/ Sample	Research Objective	Variable Measures			Relevant Findings/Limitations
			Child Abuse	**Health Problems/ Mortality**	**Other**	
Lang, Laffaye, Satz, McQuaid, Malcarne, Dresselhaus, & Stein (2006)	221 female veterans receiving primary care services from a VA in San Diego, CA	To assess the relationship between childhood maltreatment, PTSD, & health in female veterans	• Childhood Trauma Questionnaire (CTQ)	• Short Form Health Survey (SF-36), a measure of health-related quality of life • The 12-item somatization scale of the Symptom Checklist 90-Revised (SCL-90-R)	• PTSD Checklist-Civilian Version (PCL-C) • Self-reported use of pain medications over the past 6 months	• Emotional abuse was most consistently assoc. w/ health outcomes including bodily pain, the use of pain medications, & role impairments related to physical health • Physical abuse was found to be assoc. w/ poorer general health • Interestingly, emotional neglect was assoc. w/ better role functioning related to physical health & childhood maltreatment was not assoc. w/ increased use of healthcare services • PTSD was found to mediate the relat. between childhood maltreatment & health outcomes • Limitations: self report data & retrospective recall; limited generalizability; the performance of the SF-36 was unusual
O'Toole & Catts (2008)	641 male Australian Vietnam veterans	To examine the relationship between combat trauma, PTSD, & health	N/A	• The Australian Bereau of Statistics (ABS) National Health Survey Interview (including self-reported happiness, recent health actions, recent acute illnesses, chronic illnesses, & major health risk factors)	• Combat Exposure- using scale by Wilson & Krauss (1985) • Peritraumatic Dissociative Experiences Questionnaire (PDEQ) • PTSD- using the SCID • Diagnostic Interview Schedule	• PTSD, rather than combat exposure or peritraumatic dissociation, appeared to be most strongly assoc. w/ poor physical health outcomes • The physical health outcomes associated with PTSD were generally suggestive of an altered inflammatory response • Limitations: the large number of analyses conducted may have led to significant results; possible inaccuracies due to self-report data & retrospective recall; causal inferences cannot be made from the study findings

Author/ Year	Population/ Sample	Research Objective	Variable Measures			Relevant Findings/Limitations
			Child Abuse	**Health Problems/ Mortality**	**Other**	
Pitzner, McGarry-Long, & Drummond (2000)	62 sexual health patients w/ an STD, 42 sexual health patients w/o an STD, & 62 community members	To investigate the relationship between child abuse/negative life events & adult mental health	• Maltreatment Checklist which measures three domains of abuse during childhood , adolescence, & adulthood: Psychological/ Verbal Abuse; Control Abuse; & Physical/Sexual Abuse (rape) • Negative Life Events Checklist	N/A	• Symptom Checklist-90 (Revised)	• The prev. of Physical/Sexual Abuse during adolescence was greater in the clinical groups than in the community group • The prev. of Control Abuse during childhood & during adolescence was greater in the clinical groups than in the community group • Control Abuse occurring either during childhood or adolescence predicted current psychological distress in the STD-positive group • Limitations-although no causal relationships can be determined, the authors imply such a relat.; Reliance on retrospective recall & self-report data; limited generalizability; inappropriate comparison group
Roberts, O'Connor, Dunn, & Golding (2004)	8,292 families in Avon, Engl&	To examine the relationship between a history of childhood sexual abuse, mental health in adulthood, family organization, parenting behaviors, & adjustment of one's offspring	• Self-reported sexual assault & age at time of assault • Self-reported childhood physical abuse • Self-reported Childhood emotional abuse	None	• Edinburg Post-Natal Depression Scale • Anxiety subscale of the Crown-Crisp Experiential Index • Backman Self Esteem Scale • Scales from the Western Australia Pregnancy program	• CSA was associated w/ teenage pregnancy, relat. problems, parenting difficulties, & psychological problems • CSA was also assoc. w/ conduct problems in one's child • The majority of the associations remained sig. after adjusting for childhood physical & emotional abuse • Survivors of CSA were more likely to be living in a non-traditional family • Limitations: T he possible inflation of associations between variables; CSA was defined as sexual assault, perpetrator data was not collected; pa

Author/ Year	Population/ Sample	Research Objective	Variable Measures			Relevant Findings/Limitations
			Child Abuse	**Health Problems/ Mortality**	**Other**	
Rowan, Foy, Rodriguez, & Ryan (1994)	Forty-seven help-seeking adults with a history of childhood sexual abuse	To assess the relationship between childhood sexual abuse & the later development of PTSD	• Sexual Abuse Exposure Questionnaire (SAEQ)	None	• Vietnam Veterans History Question. (demo. & historical information sections) • Structured Clinical Interview for DSM-III-R (SCID) PTSD module • Impact of Events Scale (IES) PTSD Symptom Checklist (SCL)	• Overall childhood abuse exposure was sig. related to diagnosis of PTSD • Duration & freq. of childhood abuse were found to be sig. related to PTSD diagnosis • Overall childhood abuse exposure & severity of abuse were found to be related to PTSD symptomatology • Age of onset & duration of abuse were found to be related to PTSD symtomatology • Limitations: mediating factors that could have influenced the study results were not assessed; generalizability- study consisted of a clinical sample with a disproportionate amount of unmarried participants; there is no set standard for what constitutes a "high level" of traumatic exposure
Ryan, Smith, Smith, Amoroso, Boyko, Gray, Gackstetter, Riddle, Wells, Gumbs, Corbeil, & Hooper (2007)	77,047 male & female military personnel	To begin exploring the impact of military service on physical & mental health	N/A	• The Millennium Cohort questionnaire (questions re: diagnosed medical conditions, symptoms, physical status, functional status, substance use, sleep patterns, etc) • The Medical Outcomes Study Short Form-36 for Veterans (SF-36V)	• The Primary Care Evaluation of Mental Disorders (PRIME-MD) • Patient Health Questionnaire (PHQ)- • The Dept. of Veteran Affairs Gulf War Survey- used to assess toxin exposure • The PCL-C • The CAGE Questionnaire	• The most commonly reported military-specific exposures were receiving an anthrax vaccination & witnessing a person's death • A significant percentage of the study participants met the criteria for binge drinking • Reserve/Guard members were more likely than active-study respondents to be obese • Reserve/Guard members reported better physical functioning than did active-duty respondents • Limitations: study participants differed from the invited sample & from the general military population in age, education, marital status, & rank suggesting limited generalizability; possible inaccuracies due to self-report data & retrospective recall

Author/ Year	Population/ Sample	Research Objective	Variable Measures			Relevant Findings/Limitations
			Child Abuse	**Health Problems/ Mortality**	**Other**	
Saunders, Kilpatrick, Hanson, Resnick, & Walker (1999)	4,008 adult women in the United States	To examine the prevalence & characteristics of childhood rape among adult women in the United States & the consequences of such rape	• A modified version of the rape screening questions from the Incident Classification Interview • Questions re: the characteristics of the rape (i.e., age at time of rape, relationship to perpetrator, freq. of assaults, perception of life threat, physical injury, role of alcohol or drugs, whether rape was reported)	None	• Depression as measured by the Structured Clinical Interview for DSM-III R • PTSD as measured by the National Women's Study PTSD module	• 8.5% of the participants reported being a victim of completed childhood rape • Older participants reported significantly fewer child rapes than did younger participants • Younger participants were more likely to have reported the rape to the authorities than were older participants. However, the reporting rate among the sample was low • Approximately 60% of the participants who reported childhood rape were raped prior to the age of 13 • The majority of the rapes were committed by someone the victim knew • In nearly half of the rapes, the victim thought that she would be killed or seriously injured • In one fourth of the rapes, the victim suffered serious physical injury • In the majority of the rapes, the perpetrator was not under the influence of substances • Victims of childhood rape were more likely to be divorced, to be depressed, to have PTSD, & to have substance abuse problems • Limitations: The study only examined completed rape &, therefore, other forms of sexual abuse were not assessed; the sample was composed entirely of women, thereby limiting generalizabiltiy; the retrospective nature of the study may have produced inaccurate reporting; the correlational design of the study limits causal statements

Author/ Year	Population/ Sample	Research Objective	Variable Measures			Relevant Findings/Limitations
			Child Abuse	**Health Problems/ Mortality**	**Other**	
Schafer (2007)	1, 866 Vietnam Veterans from an inpatient residential PTSD treatment program	To assess mortality rates & causes of death in Vietnam veterans with combat-related PTSD	N/A	• Vital status & cause of death-determined through the use the Social Security Death Master File (DMF) & the National Death Index (NDI).	• Demographic data	• The annual rate of death among the study participants was 1.2% • The rate of death among the study participants was higher than that of the age-adjusted general population • The rate of behavioral causes of death was significantly higher than that of the age-adjusted general population • There appeared to be a shift in mortality trends away from behavioral causes of death & toward natural causes of death • Limitations- lack of a non-PTSD veteran comparison sample; limited generalizability of the sample; inaccuracies in the causes of death reported on death certificates
Springer, Sheridan, Kuo, & Carnes (2007)	More than 2,000 middle-aged adults from the Wisconsin Longitudinal Study	To investigate the relationship between childhood physical abuse & physical/mental health in adulthood	• Physical abuse items taken from the Conflict Tactics Scale • Four items pertaining to childhood adversity	• Physical health items adapted from the Duke Older Adults Research Survey (OARS)	• Center for Epidem. Studies Depression Scale (CES-D) • Spielberger's Anxiety & Anger scales • Family background variables	• Childhood physical abuse significantly predicted an increase in psychological symptoms, physical symptoms, & medical diagnoses • After controlling for childhood adversities & family background variables, the relationship between childhood abuse & health/mental health in adulthood was weakened but not eliminated • Limitations: violence during adulthood was not assessed; childhood physical abuse was measured using a very small number of items; sexual abuse & emotional abuse were not controlled for; a mood congruency bias among participants may have affected the recall of adverse childhood events

Author/ Year	Population/ Sample	Research Objective	Variable Measures			Relevant Findings/Limitations
			Child Abuse	**Health Problems/ Mortality**	**Other**	
Surtees, Wainright, Day, Brayne, Luben, & Khaw (2003)	12,818 male & female adults in the United Kingdom	To assess the relationship between adverse childhood experiences & adult health problems, including altered immune functioning	• Assessed by participants' responses to 8 'yes or no' questions re: experiences prior to the age of 17 (i.e., parental divorce, parental substance abuse, physical abuse, separation from family, childhood hospitalization)	• Health & Life Experiences Questionnaire (HLEQ) • White blood cell counts (WBC) & lymphocyte counts (collected via non-fasting blood samples)	• Revised version of the Personality Deviance Scales (PDS-R) that included an 8-item measure of hostility	• Adverse childhood experiences were associated with elevated lymphocyte counts • Associations were strongest for being sent away from home & for physical abuse • Smoking behavior & Body Mass Index served as mediators, accounting for nearly 50% of the association between adverse childhood experiences & lymphocyte counts • Limitations: possible inaccuracies due to self-report; retrospective reporting; failure to exclude participants with minor immune problems
Walker, Gelf&, Katon, Koss, Von Korff, Bernstein, & Russo (1999)	1,225 women from a large HMO in Seattle, Washington	To examine the relationship between childhood abuse/neglect & adverse adult health outcomes	• 28-item short form of the Childhood Trauma Questionnaire	• Hx of physical symptoms-derived from the Diagnostic Interview Schedule used in the NIMH Epidemiologic Catchment Area Study • Medical diagnoses	• Functional disability-measured by the SF-36 • Alcohol use-measured using the CAGE • Health risk Behaviors (smoking, driving while intoxicated, & high-risk sexual behavior)	• A history of childhood maltreatment was associated with perceived poorer overall health, greater emotional & functional disability, increased physical symptoms of a distressing nature , & a greater number of health-risk behaviors • A history of multiple forms of maltreatment was associated with increased physical symptoms, greater physical & mental disability, increased health-risk behaviors, & a greater number of physician-recorded diagnoses • Limitations- low response rate; inability to determine causation; limited generalizability

Author/ Year	Population/ Sample	Research Objective	Variable Measures			Relevant Findings/Limitations
			Child Abuse	**Health Problems/ Mortality**	**Other**	
Watanabe & Kang (1995)	10, 716 Vietnam veterans & 9,346 non-Vietnam veterans	To examine mortality rates & causes of death among Vietnam & non-Vietnam veterans	N/A	• Vital status- obtained from the Dept. of Veterans Affairs Beneficiary Identification Records Locator System (BIRLS) • Cause of death obtained from death certificates	None	• The authors found a sig. excess of overall mortality & mortality from external causes of death among the Vietnam veterans in the sample • The excess overall mortality among the Vietnam veterans was found to be primarily due to external causes of death • Limitations: possible inaccuracies in reported cause of death
White & Widom (2003)	908 individuals w/ substantiated childhood abuse/neglect & 667 matched controls (1,575 individuals)	To examine the relationship between childhood abuse & adult mortality using a prospective cohort design	• Substantiated childhood physical abuse, sexual abuse , or neglect prior to age 12-ascertained through court records	• Vital status ascertained from the National Center for Health Statistics National Death Index • Cause of death ascertained from death certificates	N/A	• No sig. differences in mortality rate or cause of death were found • Limitations- Participants were only followed into early adulthood; limited power; cause of death was not known for all of the deceased participants; did not address unreported instances of abuse; abused individuals may have received interventions that served as mediating factors; some of the individuals in the control group may have been abused
Whitfield, Anda, Dube, & Felitti (2003)	8,629 adult male & female HMO members	To assess the relationship between adverse childhood experiences & intimate partner violence in adulthood	• Adverse Childhood Experiences Scale (ACE) items (only assessed physical abuse, sexual abuse, & witnessing domestic violence)	None	• Two questions about intimate partner violence adapted from the Conflict Tactics Scale (CTS)	• Each of the 3 ACE items sig. increased the likelihood of being a victim or perpetrator of IPV • A positive graded relat. was found between number of violent childhood experiences & risk of victimization among women & perpetration by men • Limitations: retrospective recall; use the word “threatened” in assessing IPV may have been misleading

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