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Pepperdine University  
Graduate School of Education and Psychology

AGGRESSION AND SPIRITUALITY AMONG VETERANS WITH CHRONIC  
COMBAT-RELATED POSTTRAUMATIC STRESS DISORDER

A clinical dissertation submitted in partial  
satisfaction of the requirements for the degree of  
Doctor of Psychology

by

Lea M. Didion

December, 2008

David Foy, Ph.D. – Dissertation Chairperson

This clinical dissertation, written by

Lea Mieko Didion

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

September 15, 2008

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## DEDICATION

This project is dedicated to those members of the armed forces who have pledged their lives to the protection of our freedom and our country. To the men in my family, my grandfather, fathers, and my brother you have made it safe for me to pursue my goals and I am forever in your debt.



## ACKNOWLEDGEMENTS

This project was the cumulative effort of so many people that I would like to thank. My labmates Katy and Sarah, there is absolutely no way I would have made it through the past three years without your friendship and support. You kept me timely and on point, which is no minor feat. To my classmates Katy, Sarah, Shana, Jessica, Yuka, and Josina we have all vented to each other countless times and I cherish every venting session. Yet, I am grateful for far more than the much-needed stress relief; I am forever in all of your debt for giving me back a piece of myself and helping me maintain perspective and, amazingly, a sense of humor through these years.

To my dissertation committee, Drs. Foy, Drescher, and deMayo, thank you for wanting nothing but the best for my career. I feel lucky to have had a committee that made this challenging process collegial and thought-provoking. Thank you for allowing me to contribute to this great field of trauma psychology and I sincerely hope that the collaboration does not end.

To my family, Naomi, Robert, Kent, Zyma, Darcy, Kenty, and Gillian your presence in my life has helped me keep focus on the future and meaning in my life. To my parents Mieko, John, and Conal I have carried you with me in my heart always and you gave me strength when I faltered. To Tom, you were always my most ardent fan and without your patience and caring this process would have been completed, but it would have been darker. I will always truly thank you for everything.

To all those individuals I have not yet met, be glad you did not know me through this stressful period, but be forewarned that I will be bringing this passion for this population to my everyday life!

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- 06/02 – 09/02**      **UCLA NEUROPSYCHIATRIC INSTITUTE**, Los Angeles, CA  
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## PRESENTATIONS

- Didion, L., Burgoyne, M., Casas, E., Schutz, K., Drescher, K., & Foy, D. (2008, November). *Aggression and Forgiveness*. Poster session accepted for presentation at the 24<sup>th</sup> annual meeting of ISTSS, Chicago, IL
- Didion, L., Jakle, K., Metz, S., Drescher, K., & Foy, D. (2007, November). *Health-risk behaviors among women veterans with chronic PTSD*. Poster session presented at the 23<sup>rd</sup> annual meeting of ISTSS, Baltimore, MD
- Metz, S., Didion, L., Jakle, K., Drescher, K., & Foy, D. (2007, November). *Aggressive behavior, gun ownership, and firearm safety*. Poster session presented at the 23<sup>rd</sup> annual meeting of ISTSS, Baltimore, MD
- Jakle, K., Metz, S., Didion, L., Drescher, K., & Foy, D. (2007, November). *Smoking and its association with other health-risk behaviors in veterans with combat-related PTSD*. Poster session presented at the 23<sup>rd</sup> annual meeting of ISTSS, Baltimore, MD
- Drescher, K., Didion, L., Jakle, K., & Metz, S. (2006, November). *Marital status and high risk behaviors among veterans in PTSD Treatment*. Symposium conducted at the 22<sup>nd</sup> annual meeting of ISTSS, Hollywood, CA
- Batiuchak, D., Willhelm, M., Ramirez, G., Keener, J., Rotko, C., Jakle, K., Schafer, D., Metz, S., Didion, L., & Drescher, K. (2006, November). *Ethnicity, smoking, and religious service attendance in a population of veterans in inpatient treatment for PTSD*. Poster session presented at the 22<sup>nd</sup> annual meeting of ISTSS, Hollywood, CA

## ABSTRACT

Spirituality negatively correlates with aggression among the general population, but few studies have examined this relationship in the high-risk population of veterans with combat-related PTSD. Those that have found that incorporating spirituality into treatment may inversely relate to aggression; yet, most studies utilize single-item measures of spirituality. This project expands current research by using a multidimensional measure of spirituality to evaluate which dimensions best predict aggression. Scales were Daily Spiritual Experiences, Forgiveness, and Religious Support from the BMMRS. Participants were 472 male combat veterans in residential PTSD treatment. Aggression was best predicted by Forgiveness, with higher levels less likely to be aggressive; marital status, with marrieds more likely to be aggressive; and depression, with higher levels more likely to be aggressive.

Aggression and Spirituality among Combat Veterans with  
Chronic Combat-Related Posttraumatic Stress Disorder

Introduction

When examining the readjustment of combat veterans, the development of Posttraumatic Stress Disorder (PTSD) has been of significant concern (Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995), partly due to the high prevalence of aggression and anger found in many veterans with this diagnosis (Yehuda, 1999). Currently, the *Diagnostic and Statistical Manual of Mental Disorders-IV, Text Revision (DSM-IV-TR)* cites hostility, self-destructive, and impulsive behaviors as associated features of PTSD (American Psychiatric Association [APA], 2000); however, some have proposed that the high occurrence of anger and aggression, particularly among combat veterans, warrant that they be considered cardinal, rather than associated, features of PTSD (Silver & Iacono, 1986).

Indeed, studies have shown that veterans with PTSD demonstrate less control over their behaviors than veterans without PTSD (Frueh, Henning, Pellegrin, & Chobot, 1997; Miller, Kaloupek, Dillon, & Keane, 2004), making them more prone to violence and aggression (Castillo, Fallon, Baca, Conforti, & Qualls, 2002; Orcutt, King, & King, 2003). Aggression has been measured by involvement in substance-related vehicle accidents (Beckham & Moore, 2000; Yehuda, 1999), mean number of violent acts (Beckham, Feldman, Kirby, Hertzberg, & Moore, 1997) and overt anger expression (Riley, Treiber, & Woods, 1989). These aggressive behaviors are not byproducts of combat exposure alone or all psychiatric diagnoses, but may be endemic to the diagnosis of PTSD (Begic & Jokic-Begic, 2001; Freeman & Roca, 2001; Jordan et al., 1992).

Several studies hypothesize that the training veterans undergo to prepare for combat and the responses they learn during combat contributes to their aggressiveness. During wartime, aggression and hyperarousal are necessary in order to survive. However, the anger response that was once adaptive becomes a liability when veterans return from war and are forced to adjust to mainstream society (Chemtob, Roitblat, Hamada, Carlson, & Twentyman, 1988). Some veterans have difficulty controlling their impulses and will misinterpret internal and external cues as threatening or malevolent (Reilly, Clark, Shopshire, Lewis, & Sorensen, 1994). As a result, these veterans may be prone to respond with automatic aggression based on their learned responses (Chemtob, Hamada, Roitblat, & Muraoka, 1994; Chemtob, Novaco, Hamada, Gross, & Smith, 1997).

Adjustment to civilian life may be particularly difficult for veterans, as one of the byproducts of trauma is a tendency to isolate, which affords little opportunity for the extinction of aggressive responses in social settings (Lyons, 1991) or the comfort of social support (Drescher, Smith, & Foy, 2006). This may be especially true for Vietnam veterans who faced unpopular homecomings and tended to withdraw for fear of rejection or judgment (Figley & Leventman, 1980; Scurfield, 1994). Furthermore, combat veterans often feel as though they have a foreshortened future (Drescher et al., 2006), which may lead them to act aggressively without fear of reprisal or consequences. Though these findings suggest a pervasive pattern of aggression among veterans, there is a dearth of information on behaviors that negatively correlate with aggression in this population.

One social deterrent of violent behavior among the general population is involvement in spiritual practices. Studies investigating spirituality's relationship with aggression have largely focused on youth and have documented a negative relationship

between church attendance and aggressive acts (Stark, 1996) and between spirituality and driving while intoxicated (Wallace & Forman, 1998). Spirituality is also negatively associated with forms of violence (Nonnemaker, McNeely, & Blum, 2003; Wallace & Forman, 1998) and is a protective factor against violence (Powell, 1997) and against hostility and verbal aggression (Storch & Storch, 2002).

Few studies examine the relationship between spirituality and aggression among adults. Available literature shows an inverse relationship between spirituality and hostility (Koenig, 2001; Lonczak, Clifasefi, Marlatt, Blume, & Donovan, 2006) and domestic violence (Ellison & Anderson, 2001; Ellison, Bartkowski, & Anderson, 1999). Social support is also a protective factor against violence amongst psychiatric patients (Kotler et al., 1993). Interventions utilizing one dimension of spirituality, forgiveness, correlates with reduced levels of anger (Coyle & Enright, 1997) and forgiveness mediates the relationship between PTSD and hostility among adult survivors of child abuse (Snyder & Heinze, 2005). Forgiveness also contributed to the prediction of aggressive driving among college students, reducing the likelihood of aggressive and risky driving (Moore & Dahlen, in press) and has shown positive benefits in a study of survivors of prior abuse with substance use disorders (Benda & Belcher, 2006).

Forgiveness might be particularly relevant for combat veterans given that this population may face spiritual weakening as a result of combat. Veterans often question God's existence (Drescher et al., 2004), blame God for not protecting them (LaPierre, 1994), or blame themselves for their violent acts or inability to prevent death (Fontana & Rosenheck, 2004). Treatments incorporating spirituality have helped veterans create meaning and bring purpose to their lives (Drescher et al., 2006; Fontana & Rosenheck,



2004; Lyons, 1991). Fontana and Rosenheck (2004) hypothesize that among veterans involved in killing others or who were unable to prevent the death of others, feelings of guilt and spiritual decline drove them to use mental health services more extensively, perhaps in an effort to search for meaning in their experience.

Given this information, it would seem beneficial to include spiritual issues in the treatment of veterans. However, this has rarely been the case (Drescher & Foy, 1995, Drescher et al., 2004). One of the complaints of conventional medicine reported by veterans was the lack of focus on holistic and spiritual needs (Kroesen, Baldwin, Brooks, & Bell, 2002; Scurfield, 1994). Studies of spirituality with veterans found that frequent attendance at religious services lessened the harmful effects of childhood trauma (Chang, Skinner, Zhou, & Kazis, 2003) and incorporation of a “holy word” into daily stress-reduction practices increased spiritual well-being (Bormann et al., 2005). Most salient, the use of spiritual practices in treatment has been found to inversely correlate with anger among veterans (Benda, 2004; Johnson, Fontana, Lubin, Corn, & Rosenheck, 2004; LePage et al., 2006) and spiritual well-being is positively correlated with constraint among veterans, which may help to decrease aggressive outbursts (Tsuang, Williams, Simpson, & Lyons, 2002). Forgiveness of self and others was related to both PTSD severity and depression among veterans, suggesting that veterans who were able to forgive may have less PTSD symptom severity (Drescher et al., 2006; Witvliet, Phipps, Feldman, & Beckham, 2004). Taken as a whole, these studies illustrate the benefits of including spiritual components in the treatment of veterans.

Yet, there is a paucity of research on mechanisms that contribute to the inverse relationship between spirituality and aggression. It is possible that involvement in

spiritual practices may provide feelings of longevity and hope for the future, which may deter aggressive behavior (Drescher et al., 2006; Idler et al., 2003). Some authors posit that spirituality may promote a system of beliefs that help individuals focus on others or a higher power, thus reducing aggression (Koenig, 1997; Meyer & Lausell, 1996). Others believe that the social support provided through group membership among religious organizations may aid individuals by promoting coping skills, or a belief in the importance of forgiveness (Idler et al., 2003). Spirituality may counter hyperarousal symptoms by initiating a relaxation response or opportunity for emotional discharge, thus decreasing anxiety (Ellison & Anderson, 2001; Idler et al., 2003), which might reduce the likelihood of misinterpreting cues as malevolent. Existing empirical literature supports a negative relationship between church attendance and aggression but does not explore other factors that may better explain this relationship, such as forgiveness or social support. While there is a growing trend for qualitative research to consider spirituality as a multidimensional construct, as opposed to a single-item construct, quantitative literature in this area requires expansion (Neff, 2006).

This project aimed to explore the relationship between spirituality and aggression among male veterans with chronic combat-related PTSD. There is a dearth of empirical research on the high-risk population of combat PTSD veterans, shown to have elevated rates of aggression. The skills learned during combat may have allowed soldiers to survive, but veterans were not taught how to “turn off” their conditioned responses. Spirituality may help to reduce some aggressive tendencies. Yet, is it the importance of spirituality and comfort derived from spiritual practices that decreases aggressiveness? Is it social support offered by congregations? Or is it the promotion of forgiveness that

influences aggressive behavior? To more fully explore the relationship between spirituality and aggression, this project proposes to investigate which dimensions of spirituality correlate with aggressive behavior among veterans with chronic combat-related PTSD. Based on the review of the literature regarding importance of religion, social support, and forgiveness, it is hypothesized that Daily Spiritual Experiences, Forgiveness, and Religious Support will be negatively correlated with aggression.

## Method

### *Definition of Terms*

Aggression is defined as behaviors engaged in 4 months prior to intake. Aggression may manifest itself verbally or physically and includes traffic aggression (Begic & Jokic-Begic, 2002) referred to collectively as “aggression”. Spirituality has been defined as the search for transcendence and meaning in one’s life (Wilson & Moran, 1998), which may include other dimensions, such spiritual experiences, forgiveness, and support. These dimensions will be referred to collectively as “spirituality”.

### *Participants*

The archival data used was gathered from help-seeking male veterans diagnosed with combat-related PTSD. All subjects were admitted to a residential PTSD treatment program at a Veterans Affairs (VA) in California. Data was gathered on 472 veterans. Female veterans were excluded to best generalize findings to current literature, which shows differences between males and females in the types of anger experienced and frequency of anger expression (Castillo et al., 2002). All participants provided written consent for their responses to be used for research purposes.

### *Procedure*

Upon entrance to treatment, each veteran was administered a demographics questionnaire, a High-Risk Behaviors Questionnaire (HRBQ), the Brief Multidimensional Measure of Religiousness/Spirituality (BMMRS), and the Beck Depression Inventory (BDI). The archival data was collected by principal investigator Kent Drescher, Ph.D. from a California VA. The research project has been approved by the Stanford University Institutional Review Board (IRB) as well as by the Veterans Affairs Research and Development Committee. The archival data was released following approval by the IRB of Pepperdine University Graduate Schools. The dataset was de-identified prior to its release to ensure anonymity. Participants were identified by identification number only.

### *Measures*

#### *High-Risk Behavior Questionnaire*

The HRBQ (Ruzek et al., 2000) was constructed for use at a residential PTSD treatment program at a VA in California and has been used with this population since the year 2000. The 48-item HRBQ is a face-valid measure of various risky behaviors including three questions assessing aggressive behavior and three questions examining aggressive driving. Cronbach's alpha for this measure with the current sample was .67. Respondents were asked to answer the questions based on their behavior 4 months prior to entering treatment; this timeframe has been found to be the single best predictor of committing violence at treatment follow-up (Hartl, Rosen, Drescher, Lee, & Gusman, 2005). The three questions on aggressive behavior were "Have you made verbal threats to others?" "Have you assaulted others?" and "Have you intentionally damaged property?" The aggressive driving questions asked the following "Have you engaged in verbal

outbursts or made angry hand gestures while driving?” “Have you tailgated, intentionally cut-off, or chased other drivers?” and “Have you driven after drinking or taking psychoactive drugs?” Each response was coded dichotomously and was collapsed to create an Aggression Index Score (AGI) with scores ranging from 0 (*no behaviors endorsed*) to 6 (*all behaviors endorsed*). The HRBQ is currently unpublished and formal psychometric properties have not yet been established.

*Brief Multidimensional Measure of Religiousness/Spirituality*

The BMMRS, published by the Fetzer Institute in collaboration with the National Institute on Aging Working Group in 1999, contains twelve scales and 40 items (Fetzer Institute, 1999). A subset of 33 items was used in the 1997-1998 General Social Survey (GSS), a randomized national survey of the National Data Program for the Social Sciences designed to examine and compare trends in attitudes and behaviors of approximately 1,400 respondents from the United States (Fetzer Institute). Adequate reliability was found for most scale domains and for most items within domains (Idler et al., 2003). Pairwise correlations between pairs of scales ranged from 0.00 to 0.60 with half the scales below 0.30 indicating that the items measure sufficiently different aspects of spirituality and are not unitary constructs (Idler et al., 2003).

Three of the scales from the BMMRS will be used to examine which dimensions of spirituality correlate with lower levels of aggression: Daily Spiritual Experiences Scale (DSES), Forgiveness, and Religious Support. Organizational Religiousness, which assesses frequency of church attendance, will be examined as a possible covariate given its predominance in the literature.

*Daily Spiritual Experiences Scale.* The DSES is a six-item scale designed to measure a subject's experience of the transcendent in daily life as opposed to measuring behaviors, such as frequency of church attendance (Underwood & Teresi, 2002). The six items are "I feel God's presence," "I find strength and comfort in my religion," "I feel a deep inner peace or harmony," "I desire to be closer to or in union with God," "I feel God's love for me, directly or through others," and "I am spiritually touched by the beauty of creation." Respondents are asked to rate their answers from 1 (*many times a day*) to 6 (*never or almost never*), with lower scores indicating a higher frequency of spiritual experiences (Fetzer Institute, 1999). Internal consistency reliability was found to have a Cronbach's alpha of 0.91 (Idler et al., 2003). Test-retest reliability conducted on 47 treatment-seeking substance abusers over a two-day period found good response stability (Pearson product-moment correlation=0.85) and Cronbach's alpha estimate of internal consistency was 0.88 for test and 0.92 for retest (Underwood & Teresi, 2002).

*Forgiveness.* The Forgiveness scale measures respondents' level of forgiveness of themselves, others, and by God. The three questions are "I have forgiven myself for things that I have done wrong", "I have forgiven those who hurt me", and "I know that God forgives me." Possible answers range from 1 (*always or almost always*) to 4 (*never*), with lower scores indicating a higher frequency of forgiveness. Results of the GSS found Cronbach's alpha for scale reliability as 0.66 for the scale (Fetzer Institute, 1999).

*Religious Support.* The Religious Support scale measures qualities found among the social relationships in places of worship. The four-item Religious Support scale produced a low Cronbach's alpha of 0.51, suggesting that the items do not cluster

together (Idler et al., 2003). Thus, the four items were divided into two categories: Anticipated Support and Negative Interactions.

The Anticipated Support subscale measure the extent to which individuals believe that support is available from their congregation should they need it in the future. It includes “If you were ill, how much would the people in your congregation help you out?” and “If you had a problem or were faced with a difficult situation, how much comfort would the people in your congregation be?” Answers range from 1 (*a great deal*) to 4 (*none*), with lower scores indicating more anticipated support. Cronbach’s alpha for the Anticipated Support items was found by the GSS to be 0.86 (Fetzer Institute, 1999).

Negative Interactions items include “How often do the people in your congregation make too many demands on you?” and “How often are the people in your congregation critical of you and the things you do?” Answers range from 1 (*very often*) to 4 (*never*), with lower scores indicating more negative interactions. Cronbach’s alpha for the Negative Interaction items was found to be 0.64 by the GSS (Fetzer Institute, 1999).

*Organizational Religiousness.* Frequency of church attendance is measured by one item: “How often do you attend religious services?” with possible answers ranging from 1 (*more than once a day*) to 8 (*never*).

#### *Beck Depression Inventory*

The BDI is a 21-item self-report rating inventory of symptoms of depression. Beck, Steer, and Garbin (1988) found an internal consistency alpha of 0.86 for psychiatric patients and 0.81 for non-psychiatric subjects. Correlation coefficients of stability range from 0.48 to 0.86 for psychiatric patients and 0.60 to 0.83 for non-psychiatric subjects. Test-retest reliability is greater than 0.60, concurrent validity is high

and is related to both clinical assessments of depression and various established measures of depression, such as the Hamilton Psychiatric Rating Scale for Depression (0.61-0.86) and the Zung Self-Reported Depression Scale (0.57-0.86).

### *Data Analysis*

All data was analyzed utilizing the Statistical Package for the Social Sciences (SPSS) version 14.0.1 software. Analyses were completed in four steps. First, the data was cleaned; initial data for each participant was retained and used in further analyses. Assumptions of the data were checked to determine if the data was normally distributed, free of outliers, bivariate data was linear and free of outliers, and there was no heteroskedasticity. Given that all but the Negative Interactions scale of the BMMRS were scored in the reverse direction (with lower scores indicating higher frequencies), these items were reverse-scored for ease of analyses. Second, descriptive data was generated for study and demographic variables. When the study variables were tested, the Aggression Index Score (AGI) did not meet assumptions of normality. Attempts to transform the variable were unsuccessful and the AGI was made categorical, defined by those participants who endorsed no aggressive behavior and those veterans who endorsed any aggressive behavior. For the Religious Support variable, the two Anticipated Support items were summed to create a Positive Religious Support variable and the two Negative Interactions items were summed to create a Negative Religious Support variable. Third, statistical analyses were run in order to determine if depression is related to aggressive behavior, as it has been found to be the second-best predictor of violent behavior at study follow up (Hartl et al., 2005). Demographic variables such as ethnicity, years of education, and marital status were statistically evaluated for their possible contribution to



the aggression outcome, as suggested by the literature (Benda, 2004; Ellison et al., 1999; Fontana & Rosenheck, 2005; Lyons, 1991). Organizational Religiousness was also evaluated, due to its predominance in the literature, for its contribution to the outcome of aggression. Fourth, a binary logistic regression analysis was conducted to determine the best predictor variables of the outcome of aggression, controlling for the necessary demographic variables and BDI. Binary logistic regression was utilized because it allows for analysis of the relationships between a dichotomous dependent variable and several continuous or noncontinuous independent variables and creates models that best predict membership into one of two groups (Mertler & Vannatta, 2005); in this case, aggressive or non-aggressive behavior. Because this study is exploratory in nature, a forward stepping method was used, so that only those independent variables that significantly predict the dependent variable will be included in the model (Mertler & Vannatta). Preliminary analyses revealed that multicollinearity is not an issue for the variables included in the analyses, as tolerance for all variables was greater than .1. Binary logistic regressions require no assumptions for the distributions of the predictor variables (Mertler & Vannatta), and so Daily Spiritual Experiences, which was not normally distributed, and Forgiveness and BDI, which were normally distributed, were used as continuous variables. Positive and Negative Religious Support and Organizational Religiousness were made categorical because it could not be determined if their extreme skewness affected the relationships of the variables. To complete the binary logistic regression, demographic variables (ethnicity and marital status) were entered in Step 1 to control for their potential effects, depression scores were entered in Step 2 due to prior

research suggesting their ability to predict aggression, and all spirituality measures were entered in the final step to test their incremental ability to predict aggressive behavior.

### Results

The demographic information for this sample of 472 male veterans is summarized in Table 1. Mean age was 51 years ( $SD=10.3$ ) with a range from 19-80 years and with 329 (70%) falling between the ages of 50-60. Most participants were married at the time of entrance into the program (46%;  $n = 211$ ), Caucasian (57%;  $n = 270$ ), had 12 years of education (49%;  $n = 230$ ), earned less than \$30,000 in the year prior to their entrance to treatment (62%;  $n = 234$ ), and served in the army (58%;  $n = 274$ ). Forty-four (9%) of the participants served in the Iraq/Afghanistan war, 346 (73%) likely served during the Vietnam War, while the remaining 82 (17%) served during other eras.

Not represented in a table, the number of participants who endorsed engaging in aggressive acts in the four months prior to entering treatment are as follows: 127 (27%) participants endorsed making verbal threats to others, 31 (7%) assaulted others prior to entering treatment, and 59 (13%) intentionally damaged property. More than one third ( $n = 161$ , 34%) of participants made verbal threats or angry hand gestures while driving, 92 (20%) tailgated, cut-off, or chased other drivers, and 58 (12%) drove while under the influence of alcohol or psychoactive drugs.

Table 2 illustrates the sample's mean scores on the continuous variables including the DSES and Forgiveness scales and the scale of depression. On the Beck Depression Inventory, the mean score was 25.3 ( $SD = 9.4$ ). A score of 25 falls in the moderate-severe range of depression. The sample had a mean score of 18.6 ( $SD = 8.9$ ) on DSES and a mean score of 7.4 ( $SD = 2.3$ ) on the Forgiveness scale.

Table 3 shows the frequency and percentage of participants who positively endorsed dichotomous variables. The Religious Support Scale was separated into Positive and Negative Religious Support. On the Positive Religious Support scale, 251 (53%) of participants endorsed some positive religious support. On the Negative Religious Support scale, 143 (30%) of participants endorsed some negative religious support. For frequency of church attendance, 283 (60%) of the sample endorsed some church attendance. On the Aggression Index, 248 (53%) of the sample endorsed engaging in some aggressive behavior in the four months prior to entering treatment.

ANOVA's, and chi-squares were used to examine the relationships between demographic variables (age, years of education, ethnicity, and marital status) and depressive symptomatology and the outcome variable (aggressive behavior). Of these, depressive symptomatology, age, Caucasian ethnicity, African American ethnicity, and marital status were related to aggression. Age was excluded from analysis because a high percentage of individuals fell within the small age category of 50-60 years and the results of these tests are not clinically valid due to the small degree of variance. Furthermore, the age variable was excluded because it may not represent aging; it is possible that any variability in aggression as a function of age may be due to war cohort effects (e.g., perhaps Vietnam veterans are more aggressive due to homecoming reception versus veterans from other eras). Because there is no information on which war each participant served in, with the exception of OEF/OIF veterans, there is no way to determine if the age variable is truly representative of age or war experience.

A binary logistic regression analysis was conducted to compare the relative contribution of the six discretely coded variables (Caucasian ethnicity, African American

ethnicity, Positive and Negative Religious Support, Organizational Religiousness, and Marital Status), and the three continuous variables (depressive symptomatology, Daily Spiritual Experiences, and Forgiveness) to the discrete outcome measure (aggressive behavior). Results of the analysis are presented in table 4. Regression results indicate that the overall model of three predictors (Forgiveness, depressive symptomatology, and marital status) was statistically reliable in distinguishing between aggressive and non-aggressive participants (-2 Log Likelihood = 598.832;  $X^2(4) = 54.278$ ,  $p < .001$ ). The model correctly classified 65.5% of the cases. Wald statistics revealed that Forgiveness ( $\beta = -.128$ ,  $df = 1$ ,  $p < .05$ ), depressive symptomatology ( $\beta = .045$ ,  $df = 1$ ,  $p < .001$ ), and marital status ( $\beta = .761$ ,  $df = 1$ ,  $p < .001$ ) best predicted aggressive behavior among participants. Odds ratios indicate that these variables have fairly little predictive power for the classification of being aggressive, with the exception of marital status. Results show that as marital status changes from not married to married, subjects are 2.14 times more likely to be classified as aggressive. DSES, Positive Religious Support, Negative Religious Support, Organizational Religiousness, Caucasian ethnicity, and African American ethnicity were not included in the final model because the results of their score test illustrated that they were not significant predictor variables.

### Discussion

This study sought to examine the relationship between spirituality and aggressive behavior among 472 male veterans with chronic, combat-related PTSD. Results of the logistic regression analysis suggest that depressive symptomatology, marital status, and Forgiveness best predict aggressive behavior among this population. The significant results of this study are consistent with prior research. Those participants who are married

are two times more likely to be classified as aggressive, which may be due to the high incidence of intimate partner violence and domestic violence in this population (Byrne & Riggs, 1996; Jordan et al., 1992; Orcutt et al., 2003; Prigerson, Maciejewski, & Rosenheck, 2002). Depressive symptomatology as a significant predictor of aggressive behavior is supported by current research, which finds that PTSD is indirectly associated with aggression through depression (Taft, Vogt, Marshall, Panuzio, & Niles, 2007) and that depression is a moderator of the relationship between PTSD and both physical and verbal aggression (O'Donnell, Cook, Thompson, Riley, & Neria, 2006).

Forgiveness was negatively correlated with aggression, indicating that those individuals higher on the measure of Forgiveness were less likely to be classified as aggressive. There is a paucity of research on the relationship between forgiveness and aggression; however, the little that exists supports that forgiveness may reduce anger and psychological aggression in individuals (Eaton & Struthers, 2006). A study by Taft, Street, Marshall, Dowdall, and Riggs (2007) found that among Vietnam combat veterans, trait anger was a predictor of physical aggression and that anger also mediates the pathway between PTSD and aggression. Perhaps incorporating forgiveness interventions for anger will serve as an effective intervention for this population to reduce aggression.

It is surprising that DSES and Religious Support were not predictors of aggressive behavior. Closer examination of the responses to the Religious Support scale found that while the sample did not experience a great deal of Negative Interactions with members of their spiritual community, they also did not experience much Anticipated Support. In essence, these two subscales may have cancelled each other out, which may account for the non-significant findings. The current literature that shows an inverse relationship

between aggression and social support (Kotler et al., 1993; Powell, 1997) have been largely conducted with populations other than veterans with PTSD; therefore, it is possible that this relationship was not supported in this study due to population differences. Furthermore, a recent study surveyed aggressive behaviors committed in the prior six months among 1,328 veterans with PTSD; the rates of aggressive behaviors endorsed by the 1,328 veterans sampled were higher than the rates endorsed by the current sample (Taft, Kaloupek, et al., 2007). This may indicate that the veterans in this study's sample either underreported or were not as aggressive as other samples. It is possible that the non-significant findings among some of the predictor variables can be accounted for by the lower variability among the aggression variable.

#### *Limitations*

Certain limitations of the current research must be considered. This study made use of archived data, which limited the control of data collection and entry procedures, variable selection, and instrument selection. Additionally, all measures used are self-report, which is subject to recall bias and desirability. Of note, the sensitive nature of the aggression and depression questionnaires may have biased some of the respondents to underreport aggressive behavior due to fear of reprisal (such as not being admitted to residential treatment). Indeed, the distribution of the aggression variable was such that it necessitated being analyzed categorically versus continuously, limiting the variability. Examining the variable categorically likely caused a drop in power, which may account for some of the non-significant findings among particular variables.

The participants in this study are comprised entirely of combat veterans with little variability in PTSD severity scores. The lack of variability is due to the criteria for which

they would warrant residential treatment. The entirety of the sample is male and the majority of the sample is between the ages of 50-60 years old, Caucasian, with 12 years of education. These characteristics of the sample limit the generalizability of the findings to help-seeking veterans with severe and chronic PTSD.

The restricted age distribution did not allow for its inclusion as a covariate in the model to predict aggressive behavior due to its limited variability and because it could not be determined if age effects were indicative of war cohort effects, which also limits the findings. Because the present study was correlational, causality cannot be ascertained and due to the cross-sectional design of this study, the directionality of the relationship between the study variables, demographics, and outcome variables cannot be determined. Finally, the significant findings may have been confounded by other variables not controlled for, such as alcohol use, which has been linked to aggressive behavior among veterans with PTSD (Taft, Kaloupek, et al., 2007).

#### *Clinical Implications and Areas of Future Research*

Interestingly, Organizational Religiousness, or church attendance, was not a significant predictor variable for aggressive behavior. Given that church attendance is frequently used as the sole measure of spirituality and religiousness in the literature (Chang et al., 2003; Powell, 1997; Wallace & Forman, 1998), future research might benefit from expanding the definition of spirituality to include other dimensions of spirituality, such as forgiveness. Likewise, aggression measures should also be broadened to assess for multiple dimensions of aggression, including aggressive driving.

If there is a desirability bias in this population for reporting aggressive behaviors, the use of corroborating sources may be helpful in truly assessing the rates of aggressive

behaviors in future research. Corroboration may also elucidate cases of domestic violence. Given that marital status was the strongest predictor of aggressive behavior, partner abuse should be screened for when treating married veterans with PTSD.

Little research has been conducted on returning veterans from Afghanistan and Iraq (OEF/OIF veterans). However, Jakupcak et al., (2007) found that among OEF/OIF war veterans with PTSD or sub-threshold PTSD, there exists a strong correlation between anger and aggression. This may be a cohort who would benefit from thorough assessment for aggressive behavior as well as early interventions and anger management training. Furthermore, veterans with sub-threshold PTSD are an often overlooked cohort, but may also benefit from intervention. In a meta-analysis of literature on PTSD and aggression, with more than half of the analyzed studies on military populations, by Orth and Wieland (2006), time since traumatic event was strongly positively correlated with anger and PTSD as well as hostility and PTSD. Early interventions, incorporating anger management for returning veterans with PTSD or Acute Stress, may help to curtail the negative sequelae of these disorders, including anger and hostility. Early research on implementing anger management skills training with veterans (Chemtob et al., 1997) and brief Cognitive Behavioral Therapy anger management intervention with active duty military personnel (Linkh & Sonnek, 2003) and have demonstrated success; yet, overall, treatment interventions for anger remains an area that would benefit from further study.

Given that hyperarousal symptoms among veterans with PTSD appear to have the strongest positive correlation with aggression (Taft, Kaloupek, et al., 2007), future directions in research and clinical work should target hyperarousal symptoms for interventions, both through psychotherapy and psychotropic interventions.



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Table 1

*Demographic Characteristics of the Sample (N = 472)*

Variable	N	%
Marital Status:		
Never Married	49	10.6
Married	211	45.6
Divorced/Separated/Widowed	203	43.9
Ethnicity:		
Caucasian	270	57.2
Hispanic	80	16.9
African American	77	16.3
Other	43	9.2
Education:		
Less than 12 years	59	12.6
12 years	230	49.1
More than 12 years	179	38.3
Income (per year):		
< \$10,000	100	26.2
\$10,000 - \$30,000	134	35.9
\$30,001 - \$50,000	91	23.9
> \$50,001	56	14.7

*(table continues)*

Variable	<i>N</i>	%
Branch of service:		
Army	274	58.1
Navy	67	14.2
Marines	105	22.2
Air Force	28	5.9
Coastguard	2	0.4
Service Era:		
Vietnam	346	73.3
OEF/OIF	44	9.3
Other	82	17.4
Variable	Mean	<i>SD</i>
Age:	51.4	10.3

*Note.* Missing data reduced the sample size for each variable as follows: marital status:  $N = 463$ , ethnicity:  $N = 470$ , education:  $N = 468$ , and income:  $N = 381$ . No missing data for age. Other ethnicity includes Asian/Pacific Islander, Native American, mixed ethnicity, and “other” ethnicity. OEF/OIF = Operation Enduring Freedom/Operation Iraqi Freedom.



Table 2

*Mean Scores for Continuous Measures of Depressive Symptomatology and Religiousness/Spirituality (N = 472)*

Measure	Mean	SD	Range
Beck Depression Inventory	25.3	9.4	1-55
Brief Multidimensional Measure of Religiousness/Spirituality (BMMRS):			
Daily Spiritual Experiences	18.6	8.9	6-36
Forgiveness	7.4	2.3	3-12

*Note.* Higher scores on the Beck Depression Inventory indicate higher levels of depressive symptomatology. Higher scores on Daily Spiritual Experiences and Forgiveness indicate higher levels of spirituality.

Table 3

*Frequencies of Dichotomous or Categorical Measures of Spirituality and Aggression**Index (N = 472)*

Measure	Frequency	%
BMMRS:		
Religious Support		
Positive	251	53.2
Negative	143	30.3
Organizational Religiousness	283	60.0
Aggression Index Score	248	52.5

*Note.* Organizational Religiousness is categorized into never attends vs. some attendance.

Positive Religious Support indicates those who endorsed some positive religious support and Negative Religious Support indicates those who endorsed some negative religious support.

Table 4

*Binary Logistic Regression Coefficients: Aggressive Behavior as a Function of Spirituality, Depressive Symptomatology, and Marital Status (N=472)*

	$\beta$	<i>Wald</i>	<i>df</i>	<i>p</i>	Odds Ratio
<b>Aggressive Behavior (DV)</b>					
Forgiveness	-.128	7.529	1	.006	.880
Depressive Symptomatology	.045	15.446	1	.000	1.046
Marital Status	.761	14.727	1	.000	2.140
Constant	-.347	0.438	1	.508	.707
<b>Variables not in the Equation</b>					
	$\beta$			<i>p</i>	
Daily Spiritual Experiences	.071			.790	
Positive Religious Support	.008			.931	
Negative Religious Support	.538			.463	
Organizational Religiousness	.008			.931	
Ethnicity (Caucasian)	1.080			.299	
Ethnicity (African American)	.643			.422	

*Note.* DV = dependent variable

## APPENDIX A

### Literature Review

#### *Search Criteria*

To study which dimensions of spirituality correlate with aggressive behavior among male veterans with chronic combat-related posttraumatic stress disorder (PTSD), a literature review was conducted by first establishing criteria for the inclusion and exclusion of articles. Empirical articles, published in peer-reviewed journals, with  $N \geq 30$  were utilized. Three variables of interest were searched: aggression (variations included aggressive behavior, anger, hostility, violence, and aggressive or dangerous driving); spirituality (or spiritual, religiosity, religion, forgiveness, social support); and veterans (or combat, vets, Vietnam, military, posttraumatic stress disorder/PTSD). Search parameters were set to include at least two of the research variables of interest with all combinations attempted. Qualitative articles were excluded, as were those articles utilizing only female subjects. Search databases included Academic Search Elite, ATLA Religion Database with ATLASerials, Family and Society Studies Worldwide, Health Source: Nursing/Academic Edition, Military & Government Collection, Published International Literature on Traumatic Stress (PILOTS), PsycArticles, PsycINFO, PubMed, Scirus, Scopus, and articles Interlibrary Loan (ILL) through Pepperdine University Libraries. A total of 45 articles were located that combined two or more variables of interest. Twenty-six articles on veterans and aggression fit the search parameters, eleven articles were found on aggression and spirituality, and five articles were found on veterans and spirituality. Additionally, three articles were located that combined the all three of the search variables. The main findings of these articles are discussed below.

*Veterans and Aggression*

Studies have shown that veterans with PTSD exhibit greater physical assault, trait anger, and psychological aggression (Taft, Street, Marshall, Dowdall, & Riggs, 2007) and interpersonal violence compared to veterans without PTSD (Beckham, Feldman, Kirby, Hertzberg, & Moore, 1997; Byrne & Riggs, 1996; Carroll, Rueger, Foy, & Donahoe, 1985; Freeman & Roca, 2001; Glenn et al., 2002; Jakupcak et al., 2007; Jordan et al., 1992; Lasko, Gurvits, Kuhne, Orr, & Pitman, 1994), and as compared to patients with other psychiatric diagnoses (Chemtob, Hamada, Roitblat, & Muraoka, 1994; Riley, Treiber, & Woods, 1989). Veterans with PTSD, particularly Vietnam veterans, also scored higher than veterans without PTSD or non-veterans on measures of hostility (Beckham et al., 1996; Frueh, Henning, Pellegrin, & Chobot, 1997; Kubany, Gino, Denny, Torigoe, 1994; Yager, Laufer, & Gallops, 1984). Veteran with PTSD also score higher on scales of aggression and verbal hostility compared to veterans without PTSD (Castillo, Baca, Conforti, & Qualls, 2002). Veterans with PTSD also endorsed a higher mean number of violent acts over the prior year than veterans without PTSD (Jordan et al., 1992; Lasko et al., 1994; McFall, Fontana, Raskind, & Rosenheck, 1999); and were more prone to overt anger expression when compared to psychiatric inpatients as well as to control groups (Riley et al., 1989), thus suggesting that anger and aggression are correlated with the diagnosis of PTSD. Indeed, PTSD has been shown to directly relate to aggression (Taft, Vogt, et al., 2007; Taft, Kaloupek, et al., 2007).

While combat exposure is related to interpersonal violence among veterans (Beckham, Feldman, & Kirby, 1998; Beckham et al., 1997; Prigerson et al., 2002) and increased adult antisocial practices, such as driving under the influence, among Vietnam

theatre veterans (Resnick, Donahoe, Foy, & Miller, 1989), it may be the development of PTSD symptoms that plays a more direct role (Fontana & Rosenheck, 2005). Other studies corroborate that the relationship between combat exposure and aggression (Taft, Vogt et al., 2007) and combat exposure and assault-related arrests (Yager et al., 1984) may be mediated by PTSD symptoms. In a study of veterans and their involvement in the judicial system, total PTSD scores highly correlated with later convictions for disorderly conduct, assault, and driving under the influence (Wilson & Zigelbaum, 1983). PTSD also mediates the role between captivity internment in former POW's and physical and verbal aggression (O'Donnell, Cook, Thompson, Riley, & Neria, 2006). PTSD symptom severity has been linked to violence towards others (Orcutt, King, & King, 2003) and a study by Jakupcak et al. (2007) found that among Afghanistan and Iraq war veterans, those with PTSD did not differ significantly on a measure of aggression from those with sub-threshold PTSD though both groups had significantly greater levels of aggression than non-PTSD veterans.

A study exploring which PTSD symptom clusters relate to aggression found hyperarousal to be directly positively related and avoidance/numbing to be directly negatively related to aggression (Taft, Kaloupek, et al., 2007). This finding differs from McFall et al. (1999), who found that avoidance/numbing was more significantly associated with violence than either hyperarousal or re-experiencing.

### *Aggression and Spirituality*

Most studies examining the relationship between spirituality and aggression have focused on youth. Among children and adolescents, frequent church attendance was negatively correlated with aggressive behaviors, with religious youth less likely to engage

in fights (Abbotts, Williams, Sweeting, & West, 2004; Higgins & Albrecht, 1977; Wallace & Forman, 1998). Family church attendance and prayer reduced the risk of aggressive behavior (Gardner, Powell, & Grantham-McGregor, 2007) and public and private spiritual practices were associated with a lower likelihood of involvement in weapons-related violence and served as a deterrent of driving while intoxicated for teenagers (Nonnemaker, McNeely, & Blum, 2003; Wallace & Forman, 1998). Adult social support, including relationships with clergy, and spirituality also served as protective factors against interpersonal violence amongst inner-city youth (Powell, 1997). Intrinsic religiosity was found to be inversely related to aggressive attitudes and verbal aggression among college athletes (Storch & Storch, 2002) and among college students, forgiveness inversely correlated with aggressive driving (Moore & Dahlen, in press).

In adults, regular church attendance was inversely associated with the perpetration of intimate partner violence in men who attended church once a week or more (Ellison, Bartkowski, & Anderson, 1999). Those men who attended church frequently were an estimated 61% less likely to commit domestic violence than men who did not attend church, which held true across denominations (Ellison & Anderson, 2001). Accordingly, men who did not attend church were at an increased risk of committing domestic violence, per their spouse's report (Fergusson, Horwood, Kershaw, & Shannon, 1986).

#### *Veterans and Spirituality*

A literature search on spirituality and veterans revealed a paucity of empirical findings. Five quantitative studies examined spiritual practices among veterans. Lower levels of spiritual well-being were found among veterans as compared to prior studies of medical outpatients (Bormann et al., 2005) and religious faith was weakened for those

veterans who participated in acts of killing during the war or who were unable to prevent the death of others (Fontana & Rosenheck, 2004). Results from a study in which veterans were taught to use a spiritual mantram repetition (“holy word”) found that incorporating a spiritual key word in their daily stress routine improved their spiritual well-being and decreased subjective levels of stress (Bormann et al., 2005). Those veterans who attended frequent religious services were found to suffer fewer harmful effects of pre-combat trauma as compared to veterans who attended church infrequently or not at all (Chang, Skinner, Zhou, & Kazis, 2003). Conversely, negative religious coping was correlated with various mental health difficulties as was difficulty forgiving oneself and others (Witvliet, Phipps, Feldman, & Beckham, 2004). Forgiveness has also been shown to amplify the negative relationship between spiritual well-being and substance abuse as well as to diminish the positive relationship between childhood abuse and distress and substance abuse (Benda & Belcher, 2006).

#### *Aggression and Spirituality among Veterans*

The correlation between spirituality and aggression has rarely been studied in a veteran population. The results from these studies that have showed that male veterans felt as though transforming spiritual life experiences directly contributed to reduced aggression as well as to a lower likelihood of readmission to a substance abuse program (Benda, 2004). Existential well-being was significantly positively correlated with constraint among twins from the Vietnam era suggesting that they are better able to control their impulses (Tsuang, Williams, Simpson, & Lyons, 2002) and increases in behaviors, including spiritual practices, decreased incidences of aggression (LePage et al., 2006).



*Summary*

Forty-five articles were obtained which examined the variables of interest. One article found that veterans are more likely than non-veterans to engage in aggressive acts. Of those articles examining PTSD among veterans, 20 found a positive relationship between PTSD and aggression, seven between PTSD and hostility/anger, and two between PTSD and aggressive driving. Seven articles found that aggression decreased as the frequency of church attendance increased, six found that as religious importance increased aggression decreased, and one found a negative relationship between driving aggression and forgiveness. Two articles found that veterans were more likely to score lower on measures of overall spirituality than non-veterans and three articles found that spirituality may negatively correlate with aggression in veterans. Taken together, these articles demonstrate that aggression occurs at high rates in veterans with combat-related PTSD. Though research has revealed negative correlations between spirituality and aggression among other populations, it has rarely been empirically studied for veterans; when it has, spirituality negatively correlated with aggression. Overall, the existing literature would benefit from further empirical research on the relationship between spirituality and aggression among veterans, particularly those with PTSD.

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## APPENDIX B

## Summary of Articles in Literature Review (N = 45)\*

Sample Characteristics	Aggression	Spirituality	Other Study Characteristics	Correlations***	General Outcomes
<p><i>Size:</i></p> <ul style="list-style-type: none"> <li>(10) 30-100</li> <li>(8) 101-150</li> <li>(6) 151-300</li> <li>(6) 301-600</li> <li>(2) 601-1000</li> <li>(7) 1001-2000</li> <li>(7) 2001+</li> </ul> <p><i>Participants:</i></p> <ul style="list-style-type: none"> <li>(18) Vietnam vets</li> <li>(17) Other era vets</li> <li>(3) Non-vet adults</li> <li>(8) Youth (10-24)</li> <li>(9) Corroborating reports</li> <li>(12) Control group</li> </ul> <p><i>Variables:</i></p> <ul style="list-style-type: none"> <li>(26) Aggression &amp; vets</li> <li>(11) Spirituality &amp; aggression</li> <li>(5) Spirituality &amp; vets</li> <li>(3) Spirituality &amp; aggression among vets</li> </ul>	<p><i>Types of Aggression**</i></p> <ul style="list-style-type: none"> <li>(29) Frequency</li> <li>(4) Dichotomous</li> <li>(1) Verbal only</li> <li>(11) Physical only</li> <li>(19) Combined</li> <li>(9) Hostility/Anger</li> <li>(4) Driving</li> <li>(2) Legal History</li> <li>(7) Domestic violence</li> <li>(5) Unknown</li> </ul> <p><i>Aggression Measures:</i></p> <ul style="list-style-type: none"> <li>(3) SFVI (4) CTS</li> <li>(4) BDHI (2) PMWI</li> <li>(4) STAI (2) VBI</li> <li>(2) Ax/Ex (1) BSI</li> <li>(4) Ho (short)</li> <li>(14) Measure created for study</li> <li>(20) Other (see Note)</li> </ul> <p><i># of items used:</i></p> <ul style="list-style-type: none"> <li>(8) 1-4</li> <li>(4) 5-6</li> <li>(5) 7-10</li> <li>(18) 11+</li> <li>(5) unknown</li> </ul>	<p><i>Forms of Spirituality**</i></p> <ul style="list-style-type: none"> <li>(10) Frequency of attendance</li> <li>(2) Participation in religious activities</li> <li>(8) Religious importance/comfort/beliefs</li> <li>(3) Religious affiliation</li> <li>(4) Spiritual well-being</li> <li>(3) Forgiveness</li> <li>(2) Religious Coping</li> </ul> <p><i>Spirituality Measures:</i></p> <ul style="list-style-type: none"> <li>(3) Ellison's Spiritual Well-Being Scale</li> <li>(1) Brief Religious Coping Scale</li> <li>(1) Forgiveness of Others &amp; Forgiveness of Self Scales</li> <li>(1) Trait Forgiveness Scale</li> <li>(1) Transgression-Related Interpersonal Motivations</li> <li>(12) Questions developed for study</li> </ul> <p><i># of items used:</i></p> <ul style="list-style-type: none"> <li>(8) 1-2</li> <li>(5) 14-35</li> <li>(4) 3-5</li> <li>(1) unknown</li> <li>(1) 6-13</li> </ul>	<p><i>Other examined variables:</i></p> <ul style="list-style-type: none"> <li>(8) Anxiety</li> <li>(1) Use of mental health services</li> <li>(4) Guilt</li> <li>(12) Depression</li> <li>(15) Substance use or abuse</li> <li>(4) Health</li> <li>(3) Suicide</li> </ul> <p><i>Other variables:</i></p> <ul style="list-style-type: none"> <li>(28) PTSD</li> <li>(18) Combat exposure</li> </ul> <p><i>Analyses:</i></p> <ul style="list-style-type: none"> <li>(26) Correlational</li> <li>(2/26) Odds ratios</li> <li>(7/26) ANOVA/MANOVA</li> <li>(13) Regression analyses</li> <li>(6) Statistical modeling</li> <li>(1) Record review</li> </ul>	<ul style="list-style-type: none"> <li>(2) Veterans &amp; spiritual deficits</li> <li>(1) Veterans &amp; anger/aggression</li> <li>(7) PTSD &amp; hostility/anger</li> <li>(20) PTSD &amp; aggression</li> <li>(2) PTSD &amp; aggressive driving</li> <li>(7) Aggression &amp; church attendance</li> <li>(6) Aggression &amp; religious importance/beliefs/experiences</li> <li>(1) Driving aggression &amp; Forgiveness</li> <li>(5) Spirituality &amp; mental health</li> </ul>	<ul style="list-style-type: none"> <li>• Veterans are more violent &amp; hostile as compared to non-veterans</li> <li>• Veterans with PTSD are more hostile &amp; aggressive hostile towards family members &amp; others when compared to veterans without PTSD</li> <li>• Combat exposure increases the risk of violence and hostility</li> <li>• Church attendance is negatively correlated with aggression</li> <li>• Importance of religion/spirituality is generally negatively correlated with anger/aggression</li> <li>• Treatment for veterans that include spiritual components may reduce anger &amp; aggression</li> <li>• Of 3 articles on spirituality &amp; aggression in vets, direct relationships are not exclusively reported on</li> </ul>

\*One article was comprised of 2 separate studies \*\* Articles may include multiple measures for one behavior \*\*\*Articles may include more than one variable or relationship of interest

Note. Aggression inventories used only once: Active Expression of Hostility Scale, Aggression Questionnaire, Alternate Family Violence Measure (created for study), Anger Self-Report, Childhood Physical Punishment Scale, Community Oriented Program Evaluation Scales, Diagnostic Interview Schedule, Driving Anger Scale, Driving Survey, Driving Anger Expression Inventory, Framingham Anger Scales, Hudson's Multi-Problem Screening Inventory, Interpersonal Hostility Assessment Technique, Multidimensional Anger Inventory, Multidimensional Personality Questionnaire, Novaco Provocation Inventory, Overt Violence Index, Past Feelings & Acts of Violence Scale, Personality Assessment Inventory: Aggression subscale, Psychiatric Epidemiology Research Interview, The Child at School: A New Behavior Schedule, Vietnam Era Stress Inventory, Violence Attitudes Scale

APPENDIX C  
Literature on Aggression, Spirituality, and Combat Veterans with Chronic Posttraumatic Stress Disorder

Authors/ Year	Population/Sample	Variables			Research Objective	Measures	Pertinent Findings	Co- variates
		Vet/ Agg	Vet/ Spir	Agg/ Spir				
Abbotts, Williams, Sweeting, & West (2003)	2586 11 year old self-reports, 2237 parent reports, & 2581 teacher reports. From Catholic Church & Church of Scotland			X	To determine if there is a relationship between weekly church attendance & aggressive behavior	<ul style="list-style-type: none"> <li>Aggression: fighting &amp; aggressive behavior (1 item each for child, parent, &amp; teacher)</li> <li>Church attendance: religious affiliation (1 item) &amp; frequency of church attendance (1 item)</li> </ul>	<ul style="list-style-type: none"> <li>Weekly attenders less likely to fight &amp; be aggressive (teacher &amp; parent report)</li> <li>Excess aggression found among non-churchgoers (both denominations)</li> <li>Limits: Only assessed 2 denominations, no gender reports, church attendance only</li> </ul>	
Beckham, Feldman, & Kirby (1998)	151 Vietnam combat vets w/chronic PTSD seeking tx from PTSD outpatient clinic	X			To evaluate the relationship between combat, PTSD, & interpersonal violence	<ul style="list-style-type: none"> <li>Combat Exposure: CES, DTS, TRGI</li> <li>PTSD: Mississippi, CAPS</li> <li>Violence: VBI</li> </ul>	<ul style="list-style-type: none"> <li>Vets w/PTSD (M=29) violent acts in past year (&gt;30=very high)</li> <li>PTSD + related to interpersonal violence</li> <li>Limits: cross-sectional, no difference between life-threatening &amp; non-life threatening violence, no control group</li> </ul>	Age, combat exposur e
Beckham, Feldman, Kirby, Hertzberg, & Moore (1997)	<i>Study 1</i> : 17 tx-seeking combat vets w/PTSD, 20 vets w/o PTSD from outpatient VA (all Vietnam) & 37 corroborators of violence <i>Study 2</i> : 118 male vets w/PTSD from VA outpatient (all Vietnam)	X			<i>Study 1</i> : To examine if vets w/PTSD differ from vets w/o PTSD in interpersonal violence. <i>Study 2</i> : To study what the correlates of interpersonal violence vets w/PTSD are	<ul style="list-style-type: none"> <li><i>Study 1</i>: <ul style="list-style-type: none"> <li>Combat Exposure: CES</li> <li>PTSD: Mississippi</li> <li>Violence: SFVI (corroborator &amp; vet)</li> </ul> </li> <li><i>Study 2</i>: <ul style="list-style-type: none"> <li>Combat Exposure: CES</li> <li>PTSD: Mississippi</li> <li>Violence: Ho (short), SFVI</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li><i>Study 1</i>: PTSD &gt; non-PTSD on # of violent acts in past year (corroborator report)</li> <li>PTSD &amp; combat exposure + correlated w/violence</li> <li><i>Study 2</i>: PTSD severity correlated w/hostile affect, cynicism, &amp; aggressive responding</li> <li>Interpersonal violence + correlated w/PTSD severity &amp; aggressive responding</li> <li>Limits: antidepressant use not controlled for</li> </ul>	SES, age
Beckham, Roodman, Barefoot, Haney, Helms, et al. (1996)	50 outpatient Vietnam combat vets w/PTSD, 20 non-tx-seeking vets w/o PTSD, 60 community volunteers	X			To investigate if vets w/PTSD differ in hostility & anger from vets w/o PTSD & community matched samples	<ul style="list-style-type: none"> <li>PTSD: Mississippi</li> <li>Combat Exposure: CES</li> <li>Violence: Ho (short), Interpersonal Hostility Assessment Technique (IHAT, Paraverbal [volsitic styling] &amp; verbal hostility)</li> </ul>	<ul style="list-style-type: none"> <li>PTSD vets &gt; non-PTSD vets &amp; community sample on Ho, IHAT total, paraverbal scores</li> <li>Non-PTSD = community sample on all scores</li> <li>Limits: only PTSD veterans were tx seeking, SES not controlled for</li> </ul>	Age, SES
Benda (2004)	315 male homeless vets in a VA inpatient program for dual diagnosis	X	X	X	To examine the effects of spiritual experiences on types of readmissions among vets (tx designed to increase transforming experiences)	<ul style="list-style-type: none"> <li>PTSD: Mississippi</li> <li>Spirituality: Ellison's Spiritual Well-Being Scale, Transforming experiences (change in scores from intake to final interview)</li> <li>Aggression: Hudson's Multi-Problem Screening Inventory (current aggression)</li> </ul>	<ul style="list-style-type: none"> <li>Men more likely to be readmitted w/higher scores on aggression</li> <li>Spiritual well-being associated w/lower risk of readmission</li> <li>Transforming spiritual experiences predicted lower aggression-related readmissions in men</li> <li>Limits: recall bias</li> </ul>	Subs- tance use

(table continues)

Authors/ Year	Population/Sample	Variables		Research Objective	Measures	Pertinent Findings	Co- variates
		Vet/ Agg	Vet/ Agg/ Spir				
Benda & Belcher (2006)	310 female and 315 male homeless vets in VA inpatient program for comorbid substance abuse & other psychiatric disorders		X	To determine how the construct of forgiveness influences the outcome of alcohol and drug abuse in life-course theory using predictive structural equation models	<ul style="list-style-type: none"> <li>• Forgiveness: Transgression-Related Interpersonal Motivations</li> <li>• Spirituality: Ellison's Spiritual Well-Being Scale</li> <li>• Mental Health: Inventory of Parent &amp; Peer Attachment, Ego Identity Scale, Self-Efficacy Scale, Multi-Problem Screening Inventory</li> <li>• Abuse: Childhood Trauma Questionnaire, MPSI</li> <li>• Alcohol/Drug Abuse: MPSI</li> </ul>	<ul style="list-style-type: none"> <li>• Adding forgiveness amplified the direct, indirect, &amp; total relationships between caregiver attachment &amp; spiritual well-being to alcohol/drug abuse</li> <li>• Adding forgiveness reduced the direct, indirect, &amp; total relationships of abuse, distress, &amp; depression to alcohol/drug abuse (diminished effects of abuse &amp; distress to insignificance)</li> <li>• Limits: did not separate gender effects</li> </ul>	
Bormann, Smith, Becker, Gershwin, Pada, et al. (2005)	62 outpatient vets (volunteers)	X		To evaluate the effects of use of a mantram (holy word) on anxiety, PTSD sx's, quality of life, & spiritual well-being	<ul style="list-style-type: none"> <li>• PTSD: PTSD Checklist</li> <li>• Mental Health: STAI</li> <li>• Spirituality: Ellison's Spiritual Well-Being Scale</li> </ul>	<ul style="list-style-type: none"> <li>• Vets &lt; prior study of medical outpatients on spiritual well-being</li> <li>• Existential spirituality + related w/mantram</li> <li>• Limits: not all used spiritual word, 65% Caucasian, all help-seeking volunteers, no control group</li> </ul>	
Byrne & Riggs (1996)	50 volunteer male Vietnam vets & their intimate partners	X		To replicate & expand current research on vets w/PTSD & relationship to aggression	<ul style="list-style-type: none"> <li>• PTSD: PCL-M</li> <li>• Violence: CTS, PMWI</li> </ul>	<ul style="list-style-type: none"> <li>• PTSD sx's + correlated w/self &amp; partner report of relationship aggression &amp; severity of verbal &amp; psychological aggression</li> <li>• Limits: volunteer basis, answers based on 1-year period, self &amp; partner scores averaged together</li> </ul>	
Carroll, Rueger, Foy, & Donahoe (1985)	60 participants: 21 vets w/PTSD, 18 w/o PTSD, and 21 w/o PTSD but w/minimal combat experience from Los Angeles VA, all Vietnam	X		To examine dyadic adjustment of Vietnam era vets	<ul style="list-style-type: none"> <li>• PTSD: PTSD diagnostic scale (43 items), structured interview</li> <li>• Combat Exposure: CES</li> <li>• Relationship Violence: Active Expression of Hostility Scale (10 items)</li> </ul>	<ul style="list-style-type: none"> <li>• PTSD &gt; non-PTSD vets on general hostility, physical aggression, &amp; amount of conflict</li> <li>• Limits: all help-seeking, self-report questionnaires, cross-sectional data, recall bias</li> </ul>	
Castillo, Fallon, Baca, Conforti, Qualls (2002)	85 male vets referred for anger tx from courts, general medicine clinics, & mental health programs, 21 female vets in sexual trauma (child or adult) tx program & 95 "other dx" male vets	X		To see if male vets w/PTSD differ from male vets w/o PTSD on measures of hostility and to see if males and females with/PTSD differ from each other on scales of hostility	<ul style="list-style-type: none"> <li>• PTSD: medical record review</li> <li>• Hostility: BDHI (8 scales: Assault, Indirect Hostility, Irritability, Negativism, Resentment, Suspicion, Verbal Hostility, &amp; Guilt)</li> </ul>	<ul style="list-style-type: none"> <li>• Male vets w/PTSD &gt; male vets w/o PTSD on Assault, Irritability, Negativism, &amp; Verbal Hostility</li> <li>• Male vets w/PTSD &gt; female vets w/PTSD on Assault, Indirect Hostility, Irritability, &amp; Verbal Hostility</li> <li>• Limits: childhood trauma not assessed in males, no female control group, retrospective reports, female patients completed part of tx prior to testing</li> </ul>	

(table continues)



Authors/ Year	Population/Sample	Variables			Research Objective	Measures	Pertinent Findings	Co- vates
		Vet/ Agg	Vet/ Spir	Agg/ Spir				
Chang, Skinner, Zhou, & Kazis (2003)	2427 male vet outpatient (1849 surveyed @ 12 month follow up & 1227 surveyed @ 24 month follow up), from Veterans Health Study (VHS)		X		To determine if religiosity mediates the effects of sexual assault on mental health in male vets	<ul style="list-style-type: none"> <li>Overall functioning: mental component score from altered Veterans SF-36, sexual assault (1 item), depression (CES-D, 20 items)</li> <li>Religiosity/Spirituality: Frequency of religious attendance, Religious strength &amp; comfort (1 item)</li> </ul>	<ul style="list-style-type: none"> <li>Frequent attending vets &lt; non-attending vets in mental health decrements associated w/sexual assault</li> <li>Vets w/lower religiosity &lt; vets w/religious strength &amp; comfort on depression</li> <li>Limits: religiosity = 1 item &amp; only at baseline, inconsistency in reports of sexual assault, no data on when assault occurred</li> </ul>	
Chertob, Hamada, Roitblat, & Muraoka (1994)	24 combat vets w/PTSD, 23 combat vets w/o PTSD, 12 non-combat vets w/psychiatric disorders; all from VA & solicitation, all Vietnam vets	X			To assess if combat vets w/PTSD score differently on measures of anger than combat vets w/o PTSD & non- combat vets w/ other psychiatric disorders	<ul style="list-style-type: none"> <li>PTSD: SCID (non-patient Vietnam version), Mississippi, MMPI-PTSD Scale</li> <li>Combat Exposure: CES</li> <li>Anger: STAI (trait anger; 15 items), Novaco Provocation Inventory (state anger, 80 items), Ax/Ex (24 items), BDHI</li> </ul>	<ul style="list-style-type: none"> <li>PTSD &gt; psychiatric group &gt; non-PTSD on state &amp; trait anger</li> <li>N on-PTSD = psychiatric group on anger</li> <li>Limits: dx's of psychiatric patients not detailed</li> </ul>	Years of edu- cation
Ellison & Anderson (2001)	Sub-sample of 13017 men & women (18 years +) & spouse/partner (S/P) from NSFH-1 in contiguous US			X	To explore the relationship between religious involvement & partner violence	<ul style="list-style-type: none"> <li>Partner Violence: Y/N question of physical fights (1 item), # of fights in past year (primary respondent &amp; partner)</li> <li>Religious involvement: frequency of church attendance (primary respondent only)</li> </ul>	<ul style="list-style-type: none"> <li>Regular church attendance ↓ likelihood of partner violence for men</li> <li>Violence reduction not correlated w/social support, depression, or substance use</li> <li>Limits: no ethnicity data, 1 item for abuse, physical abuse only, no longitudinal data on religious practices, only church attendance measured &amp; only for primary respondent</li> </ul>	Age, marital status, race, yrs ed., SES, employ- ment
Ellison, Bartkowski, & Anderson (1999)	2242 male primary respondents (18 years +) & spouse/partner (S/P) from NSFH-1 in contiguous US			X	To examine religious antecedents of domestic violence in US couples	<ul style="list-style-type: none"> <li>Domestic Violence: (primary respondents only) interview &amp; questionnaire on physical fights (1 item), # of fights in past year</li> <li>Religious involvement: (primary &amp; S/P response) religious affiliation, frequency of church attendance, theological conservatism (2 items)</li> </ul>	<ul style="list-style-type: none"> <li>Frequency of church attendance inversely associated w/domestic violence perpetration by men</li> <li>Odds of domestic violence by men lower by more than 1/2 for those who attend church 1x/wk</li> <li>Limits: self-report, single item indicator of physical abuse, physical abuse only, no longitudinal data on religious practices</li> </ul>	Age, SES, yrs ed., race, employ- ment, marital status
Fergusson, Horwood, Kershaw, & Shannon (1986)	960 wives of a birth cohort studied at child's birth, 4 mons. & annually for 6 yrs from New Zealand Christchurch Child Development Study			X	To examine the correlates of frequency of wife assault (as reported by the wife only)	<ul style="list-style-type: none"> <li>Wife Assault: question on family life events w/wife to determine if husband had assaulted them in prior year (1 item)</li> </ul>	<ul style="list-style-type: none"> <li>Increased risks of reported assault associated w/nonattendance at church</li> <li>Wife assault increased as church attendance decreased (for both husband and wife attendance)</li> <li>Limits: all reports from wives</li> </ul>	Age, yrs married, SES, edu- cation, ethnicity

(table continues)

Authors/ Year	Population/Sample	Variables		Research Objective	Measures	Pertinent Findings	Co- variates
		Vet/ Agg	Vet/ Agg/ Spir				
Fontana & Rosenheck (2005)	1198 male Vietnam theatre vets w/PTSD (from computerized military registry)	X		To extrapolate which factors most contribute to post- war antisocial behavior by creating 2 causality models	<ul style="list-style-type: none"> <li>• Combat Exposure: CES, Revised Combat Scale (Laufer et al., 1981)</li> <li>• PTSD: based on results of NNVRS</li> <li>• Violence: postwar antisocial behavior w/5-item scale of violent behavior</li> </ul>	<ul style="list-style-type: none"> <li>• Combat exposure contributed to development of PTSD which contributes to adult antisocial behavior</li> <li>• PTSD mediates role of combat exposure &amp; adult antisocial behavior</li> <li>• Limits: recall bias, models are theoretical</li> </ul>	Subs- tance abuse
Fontana & Rosenheck (2004)	1385 vets (inpatient=831, outpatient=554) w/1006 completing all measures. 95% Vietnam, 5% WWII &/or Korea. 89% Christian (38% Catholics, 52% Protestants), 7% Other, 4% No religion	X		To evaluate the interrelationships among vets traumatic combat exposure, PTSD, guilt, & change in religious faith & to see if this relates to their use of mental health services	<ul style="list-style-type: none"> <li>• PTSD: Mississippi</li> <li>• Change in religious faith: change in response to religious comfort from pre-military (1 item) to post- military (1 item)</li> <li>• Guilt: Being agent of death (3 items), failing to prevent death (4 items), Laufer-Parsons Guilt Inventory</li> <li>• Service use: # of sessions in 1 year</li> </ul>	<ul style="list-style-type: none"> <li>• Causing death &amp; failure to prevent death weakened religious comfort, mediated by feelings of guilt</li> <li>• Guilt &amp; weakened faith increased use of mental health services</li> <li>• Limits: models are theoretical, service use measured by last year alone, all tx-seeking vets, retrospective data</li> </ul>	
Freeman & Roca (2001)	All male vets: 92 w/PTSD, 22 vets w/o PTSD (87% of PTSD group were Vietnam combat or Vietnam-era, 70% of control group)	X		To see if veterans w/and w/o PTSD differ in areas of attitudes toward violence & aggressive behaviors	<ul style="list-style-type: none"> <li>• PTSD: CAPS</li> <li>• Violence: Violence Attitudes Scale (VAS), Aggression Questionnaire (Buss &amp; Perry, 1992)</li> </ul>	<ul style="list-style-type: none"> <li>• PTSD &gt; non-PTSD on Aggression</li> <li>• PTSD &gt; non-PTSD on belief in consequences of violence (increased punishment → decreased crime)</li> <li>• Limits: excluded if reading competency below 6<sup>th</sup> grade, Aggression domains not reported</li> </ul>	
Freuh, Hemming, Pellegriin, & Chobot (1997)	42 combat vets w/PTSD (16 employed, 26 compensation-seeking)	X		To study the relationship between anger & PTSD & evaluate effects of compensation- seeking & employment on anger	<ul style="list-style-type: none"> <li>• PTSD: MMPI-2 PTSD Scale, Mississippi, chart review, CAPS</li> <li>• Anger: MMPI-2 Anger (16 items), BDHI (66 items), Ax/Ex (24 items)</li> <li>• Other: unemployment &amp; self-report of compensation-seeking</li> </ul>	<ul style="list-style-type: none"> <li>• PTSD severity + correlated w/anger scales</li> <li>• Employment status explained unique variance of anger scores; compensation-seeking did not</li> <li>• Limits: no control group, all self-report</li> </ul>	Employ- ment
Gardner, Powell, & Grantham- McGregor (2007)	202 male Jamaican school children in grades 5-6 (aggressive = 101; prosocial = 101)		X	To determine risk factors for aggressive behavior by comparing aggressive & prosocial boys on a variety of measures	<ul style="list-style-type: none"> <li>• Aggression: self-report by student on anger &amp; physical violence, teacher report on anger &amp; violence</li> <li>• Spirituality: parent report on amount of family praying &amp; church attendance</li> </ul>	<ul style="list-style-type: none"> <li>• Family prayer &amp; family church attendance reduced the risk of aggressive behavior</li> <li>• Limits: retrospective study</li> </ul>	

(table continues)

Authors/ Year	Population/Sample	Variables		Research Objective	Measures	Pertinent Findings	Co- variates
		Vet/ Agg	Vet/ Agg/ Spir				
Glenn, Beckham, Feldman, Kirby, Hertzberg, et al. (2002)	38 help-seeking randomly recruited Vietnam combat vets w/PTSD; 31 spouse/partner (S/P), & 29 older adolescent/adult children (O/A/AC) (from 16 of the vets). S/P & O/A/AC's living w/vet for 3+ years. Mainly female children	X		To investigate if PTSD predicts higher levels of hostility & violence towards S/P & O/A/AC	<ul style="list-style-type: none"> <li><i>Vets only:</i> PTSD: CAPS, Mississippi, PTSD Keane Scale (PK) Combat Exposure: CES</li> <li><i>Vets, S/P, &amp; O/A/AC:</i> Family/Other Violence: Childhood Physical Punishment Scale, Ho (short), VBI</li> <li><i>S/P only:</i> Violence: PMWI</li> </ul>	<ul style="list-style-type: none"> <li>Vets medium-high on VBI</li> <li>PTSD &gt; non-PTSD on Ho</li> <li>PTSD &gt; prior normative sample on Aggressive Responding, Hostile Affect, and Cynicism (from Ho)</li> <li>S/P &amp; O/A/AC &gt; prior normative sample on child physical punishment</li> <li>S/P elevated on PMWI</li> <li>Limits: tx history not assessed, violence towards children may not have been by vets</li> </ul>	
Higgins & Albrecht (1977)	1383 male & female 10 <sup>th</sup> graders from 6 Atlanta, GA schools in 1970		X	To examine the relationship between church attendance & delinquent behavior	<ul style="list-style-type: none"> <li>Religiosity: frequency of church attendance (1 item)</li> <li>Delinquent behavior: checklist (17 items, including fights &amp; property damage)</li> </ul>	<ul style="list-style-type: none"> <li>Moderately strong negative relationship between church attendance &amp; fights &amp; property damage (for white and nonwhite males)</li> <li>Limits: church attendance measured by 1 item only</li> </ul>	
Jakupcak, Conybeare, PHELPS, Hunt, Holmes et al. (2007)	117 male (97%) & female Iraq & Afghanistan War combat vets (47 vets w/PTSD, 21 w/sub-threshold PTSD, 49 non-PTSD) at VA in Puget Sound between May 2004-June 2005	X		To compare anger, hostility, & aggression between vets based on level of PTSD severity	<ul style="list-style-type: none"> <li>PTSD: PCL-M</li> <li>Trait Anger: STAI</li> <li>Hostility: BSI (5 items)</li> <li>Aggression: NVVRS-derived questionnaire (4 items)</li> </ul>	<ul style="list-style-type: none"> <li>PTSD &gt; sub-PTSD &amp; non-PTSD on anger &amp; hostility</li> <li>Sub-PTSD &gt; non-PTSD on anger and hostility</li> <li>PTSD = sub-PTSD on aggression</li> <li>PTSD &amp; sub-PTSD &gt; non-PTSD on aggression</li> <li>Limits: mainly white (71%), medical conditions (traumatic brain injury) not controlled for, did not separate for gender</li> </ul>	Alcohol use, combat expo- sure
Jordan, Marmar, Fairbank, Schlenger, Kulka et al. (1992)	1200 male vets, 376 spouse/partner (S/P). All vets non-tx-seeking Vietnam theatre vets from NVVRS	X		To expand the literature of the effects of PTSD severity on families	<ul style="list-style-type: none"> <li>PTSD: Mississippi, SCID</li> <li>Violence/Hostility: (vet &amp; S/P responses) SFVI, Alternate Family Violence Measure (# of violent acts in last year)</li> </ul>	<ul style="list-style-type: none"> <li>PTSD &gt; non-PTSD on SFVI</li> <li>PTSD &gt; non-PTSD on # of violent acts (including threats)</li> <li>Limits: mainly white, co-morbid conditions not controlled, family violence all w/in past year vs. lifetime</li> </ul>	
Kubany, Gino, Denny, & Torigoe (1994)	1293 MMPI's (635 active duty during Vietnam era, 658 active duty during other era). All males from Hawaii VA	X		To examine the relationship between Ho & MMPI-PTSD in Vietnam vs. other era vets	<ul style="list-style-type: none"> <li>PTSD: PTSD subscale of the MMPI (MMPI-PTSD)</li> <li>Hostility: Ho</li> </ul>	<ul style="list-style-type: none"> <li>Vietnam vets &gt; non-Vietnam vets on Ho</li> <li>Vietnam era &gt; non-era on MMPI-PTSD</li> <li>Vets w/PTSD scored 1 standard deviation above mean on Ho</li> <li>Limits: vets distinguished by dates of service not combat exposure, no control group, dx results from database</li> </ul>	

(table continues)

Authors/ Year	Population/Sample	Variables		Research Objective	Measures	Pertinent Findings	Co- variates
		Vet/ Agg	Vet/ Agg/ Spir				
Lasko, Gurvits, Kuhne, Orr, & Pitman (1994)	27 Vietnam combat vets w/PTSD; 15 w/o PTSD	X		To examine if levels of aggression, hostility, & anger differ among Vietnam combat vets w/ & w/o PTSD	<ul style="list-style-type: none"> <li>PTSD: SCID (PTSD module), Mississippi Hostility/Anger/ Aggression: BDHI (75 items), Past Feelings &amp; Acts of Violence Scale (12 items), Episodic Dyscontrol Scale (18 items), STAI (administered to 15 PTSD and 10 non-PTSD subjects)</li> </ul>	<ul style="list-style-type: none"> <li>PTSD &gt; non-PTSD on BDHI (assault &amp; irritability), Past Feelings &amp; Acts of Violence, Episodic Dyscontrol, anger expression, STAI anger</li> <li>PTSD &lt; non-PTSD on anger control (STAI)</li> <li>PTSD &gt; prior study of forensically hospitalized violent psychiatric patients on Past Feelings &amp; Acts of Violence</li> <li>PTSD &gt; prior studies of violent populations on Episodic Dyscontrol</li> <li>Limits: small sample size, mainly Caucasian, STAI not given to all subjects</li> </ul>	
LePage et al. (2006)	66 vets (male & female) in a domiciliary program for homelessness	X	X	To explore if encouragement of lifestyle behaviors correlate w/ decreases in readmissions	<ul style="list-style-type: none"> <li>Lifestyle: # of behaviors endorsed (church attendance, praying, meditation)</li> <li>Aggression: Community Oriented Program Evaluation (including anger &amp; aggression)</li> </ul>	<ul style="list-style-type: none"> <li>Vets w/higher lifestyle behaviors (including spiritual coping) had lower readmissions due to anger</li> <li>Limits: did not separate by gender, spiritual activities all self-report</li> </ul>	
McFall, Fontana, Raskind, & Rosenheck (1999)	228 psychiatric inpatient vets w/PTSD (PTSD inpatients); 64 Vietnam era psychiatric inpatients w/o PTSD (non-PTSD inpatients); 273 community sample non- tx seeking vets w/PTSD (PTSD community sample from NNVRS data). All males	X		To evaluate if PTSD psychiatric inpatients differ in violent behaviors as compared to PTSD vets not seeking treatment &/or psychiatric inpatients w/o PTSD	<ul style="list-style-type: none"> <li>PTSD inpatients only: PTSD: Mississippi-Brief (11 items)</li> <li>PTSD community sample: PTSD: Mississippi</li> <li>PTSD inpatients &amp; non-PTSD inpatients: Violence: CTS-derived scale (4 items) for 4 months prior to study, global self-reported control of violent behavior in past month</li> <li>Non-PTSD inpatients only: Violence: CTS-adapted scale (9 items) for 12 months prior to study</li> </ul>	<ul style="list-style-type: none"> <li>PTSD inpatients &gt; non-PTSD inpatients on violent acts</li> <li>PTSD inpatients &gt; non-PTSD inpatients &amp; PTSD community sample on "high violence" behavior</li> <li>PTSD inpatients more likely than other groups to engage in: verbal threats, fighting, &amp; violence in the past month</li> <li>PTSD inpatients more likely to engage in property damage than non-PTSD inpatients but not than PTSD community sample</li> <li>A avoidance clusters most significantly related to violence</li> <li>Limits: assumes no warzone service = no PTSD, different measures for each group</li> </ul>	Expo- sure to warzone violence
Moore, & Dahlen (in press)	316 college psychology students, volunteers		X	To determine the contribution of forgiveness & consideration of future consequences to the prediction of aggressive driving	<ul style="list-style-type: none"> <li>Aggressive Driving: Driving Anger Scale (14 items), Driving Survey (35 items), Driving Anger Expression Inventory (49 items)</li> <li>Forgiveness: Trait Forgiveness Scale (10 items)</li> <li>Other: Consideration of Future Consequences Scale (12 items)</li> </ul>	<ul style="list-style-type: none"> <li>Trait forgiveness inversely related to driving anger, aggressive &amp; risky driving, maladaptive driving anger expression, &amp; + correlated w/adaptive/constructive driving anger expression</li> <li>Trait forgiveness &amp; consideration of future consequences added to the predictive power of the model above driving anger alone</li> </ul>	

(table continues)

Authors/ Year	Population/Sample	Variables			Research Objective	Measures	Pertinent Findings	Co- variates
		Vet/ Agg	Vet/ Spir	Agg/ Spir				
Nonn- emaker, McNeely, & Blum (2003)	16242 7 <sup>th</sup> -12 <sup>th</sup> graders who answered item about weapon-related violence, from the National Longitudinal Study of Adolescent Health			X	To examine the association between public & private domains of religiosity & health- related outcomes (including violence)	<ul style="list-style-type: none"> <li>Religiosity: importance of religious acts (private religiosity, 2 items; public religiosity, 2 items)</li> <li>Violence: weapon-related violent acts (1 item)</li> </ul>	<ul style="list-style-type: none"> <li>Private religiosity associated w/lower likelihood of having engaged in weapon-related violence in past year</li> <li>Public religiosity – correlated w/violence, but not significant</li> <li>Limits: few items used for religiosity variable, no reports on gender or ethnicity</li> </ul>	race, age, gender, SES
O'Donnell, Cook, Thompson, Riley, & Neria (2006)	331 male WWII vets (former POW's) w/female partners	X			To study the relationship among PTSD, depression, & intimate partner violence	<ul style="list-style-type: none"> <li>PTSD: PCL</li> <li>Depression: Geriatric Depression Scale (15 items)</li> <li>Aggression: CTS</li> </ul>	<ul style="list-style-type: none"> <li>PTSD mediated role between trauma severity &amp; both physical &amp; verbal aggression</li> <li>Depression strengthened the relationship between PTSD &amp; both physical &amp; verbal aggression</li> <li>Limits: aggression in marriage only, depression may not be only moderator</li> </ul>	
Orcutt, King, & King (2003)	376 male Vietnam vets & spouse/partner (S/P) from NNVRS	X			To assess what characteristics contribute to intimate partner violence among Vietnam vets	<ul style="list-style-type: none"> <li>PTSD: Mississippi</li> <li>Violence: CTS</li> <li>Combat Exposure: war-zone trauma (36 items), perceived war-zone threat (9 items)</li> </ul>	<ul style="list-style-type: none"> <li>Combat exposure, perceived threat in war, and PTSD symptom severity were all significant paths to intimate partner violence (combat exposure was negative path)</li> <li>Limits: retrospective report, cross-sectional design</li> </ul>	
Powell (1997)	521 inner-city youths (5 <sup>th</sup> , 7 <sup>th</sup> , 9 <sup>th</sup> , & 11 <sup>th</sup> graders). All from southeast city w/population over 250000, ranked as 1 of 5 worst cities w/that population			X	To determine if there is a relationship between violent behaviors & spirituality. Social support, religiosity, & extracurricular activities as protective factors	<ul style="list-style-type: none"> <li>Religiosity: frequency of religious service attendance (1 item), importance of religion (1 item)</li> <li>Violent behavior: physical fights (dichotomous, 1 item) &amp; carrying weapon (1 item)</li> <li>Social Support: ranked in terms of helpfulness (16 sources)</li> </ul>	<ul style="list-style-type: none"> <li>60% males in "most violent" category</li> <li>Importance of religion &amp; adult social support (including clergy) protective factors against violence</li> <li>Limits: only those students present on testing day were used, mainly African American, mainly female, all self-report, 5<sup>th</sup> &amp; 7<sup>th</sup> graders were read the questionnaire whereas 9<sup>th</sup> &amp; 11<sup>th</sup> graders read it themselves</li> </ul>	Age, social support, gender, expo- sure to violence
Prigerson, Maciejewski , & Rosenheck (2002)	2578 (weighted sample size = 2521) vets aged 18-54 from National Comorbidity Study, 179 of weighted sample exposed to combat	X			To examine (using models) how PTSD mediates effects of combat exposure on adverse outcomes (including S/P abuse)	<ul style="list-style-type: none"> <li>PTSD: DIS-Revised</li> <li>Violence: List of behaviors toward S/P (or former spouse)</li> </ul>	<ul style="list-style-type: none"> <li>Combat exposure accounts for 21% of adjusted relative risk for current S/P abuse</li> <li>Current abuse of spouse mediated through prior history of PTSD</li> <li>Limits: "rarely" partner violent coded as "no", cross-sectional, retrospective, PTSD dx for "most upsetting trauma"</li> </ul>	Age, race, SES, employ- ment

(table continues)

Authors/ Year	Population/Sample	Variables		Research Objective	Measures	Pertinent Findings	Co- variates
		Vet/ Agg	Vet/ Agg/ Spir				
Resnick, Foy, Donahoe, & Miller (1989)	118 help-seeking Vietnam-era vets in Los Angeles. 94% served in Vietnam	X		To investigate which variables have the highest relationship w/adult antisocial behaviors & degree of PTSD severity	<ul style="list-style-type: none"> <li>PTSD: PTSD problem checklist (16 items)</li> <li>Combat Exposure: CES</li> <li>Antisocial Behaviors: Structured Diagnostic Interview (4 domains w/aggressive behavior &amp; driving)</li> </ul>	<ul style="list-style-type: none"> <li># of adult antisocial behaviors (including aggressive driving) predicted by PTSD</li> <li>Limits: retrospective recall, does not say what the other 6% of sample did if not serving in Vietnam, mainly Caucasian</li> </ul>	
Riley, Treiber, & Woods (1989)	54 hospitalized male vets w/PTSD, 120 (normal) volunteer parents of elementary school children (mainly women), 36 psychiatric inpatients w/Major Depressive Episode (MDE) admitted to teaching hospital (78% women)	X		To examine the relationship between anger/hostility & depression & how this compares to a control group and a group of PTSD vets (known to have higher levels of anger)	<ul style="list-style-type: none"> <li>PTSD: DIS (PTSD vets only)</li> <li>MDE: abbreviated SADS, MMPI- Depression &amp; BDI (MDE &amp; PTSD vets only)</li> <li>Anger/Hostility: BDHI, Multidimensional Anger Inventory (38 items), Framingham Anger Scales (7 items), Anger Self- Report: General Expression, STAI- Trait Anger (All groups)</li> </ul>	<ul style="list-style-type: none"> <li>PTSD &gt; MDE &gt; normal on trait anger, general anger, hostile outlook, neurotic hostility, &amp; range of anger-eliciting events</li> <li>PTSD &gt; MDE &amp; normal on anger-in/brood, reactive hostility, anger self-report, anger- out/brood</li> <li>PTSD &amp; MDE &gt; normal on overt anger expression</li> <li>PTSD &amp; MDE &lt; normal on effective expression of anger</li> <li>PTSD = normal on anger suppression</li> <li>Limits: all self-report, scales changed to T/F, genders not reported separately, PTSD may co- occur w/MDE.</li> </ul>	Age
Storch & Storch (2002)	105 intercollegiate athletes (males & females) from public university in southeastern US		X	To determine if there is a relationship between intrinsic religiousness & aggression amongst intercollegiate athletes	<ul style="list-style-type: none"> <li>Intrinsic religiosity: 3 items (Koenig et al., 1997)</li> <li>Aggression: Aggression scale from Personality Assessment Inventory (18 items: verbal &amp; physical aggression &amp; aggressive attitudes)</li> </ul>	<ul style="list-style-type: none"> <li>Intrinsic religiosity – correlated w/aggressive attitudes &amp; verbal aggression</li> <li>Limits: scale names not reported, sample not representative, social desirability, no gender breakdown</li> </ul>	
Taft, Kaloupek, Schumm, Marshall, Pamuzio et al. (2007)	1328 Vietnam vets participating in a multi- site trial all w/PTSD	X		To examine the associations between PTSD sx clusters, physiological reactivity, alcohol problems, & aggression	<ul style="list-style-type: none"> <li>PTSD: SCID</li> <li>Alcohol: CAGE Questionnaire</li> <li>Aggression: Created measure (6 items w/verbal &amp; physical aggression)</li> </ul>	<ul style="list-style-type: none"> <li>PTSD had direct + association w/aggression</li> <li>Hyperarousal sx 's + related to aggression</li> <li>Avoidance/numbing – related to aggression</li> <li>Age indirectly associate w/aggression through – association w/hyperarousal &amp; a avoidance</li> <li>Limits: 67% Caucasian, aggression measure created for study</li> </ul>	Age, combat expo- sure

(table continues)

Authors/ Year	Population/Sample	Variables			Research Objective	Measures	Pertinent Findings	Co- variates
		Vet/ Agg	Vet/ Spir	Agg/ Spir				
Taft, Street, Marshall, Dowdall, & Riggs (2007)	60 male Vietnam vets in romantic heterosexual relationships for 1+ years (PTSD = 18; non- PTSD = 42)	X			To determine if PTSD is associated w/physical & psychological aggression in relationships	<ul style="list-style-type: none"> <li>PTSD: CAPS</li> <li>Aggression: CTS</li> <li>Anger: STAI</li> </ul>	<ul style="list-style-type: none"> <li>PTSD&gt;non-PTSD on Physical Assault, psychological aggression, &amp; trait anger</li> <li>Trait anger predictor of physical aggression &amp; mediates pathway between PTSD &amp; aggression</li> <li>Limits: unequal group sizes, length of time in relationship varied</li> </ul>	
Taft, Vogt, Marshall, Panuzio, & Niles (2007)	265 male combat vets seeking diagnostic assessment of PTSD	X			To test a model for aggression including PTSD sx's, combat exposure, depression, & anxiety	<ul style="list-style-type: none"> <li>PTSD: CAPS</li> <li>Depression: BDI</li> <li>Aggression: Created measure (6 items)</li> </ul>	<ul style="list-style-type: none"> <li>PTSD directly + associated w/aggression</li> <li>PTSD indirectly association w/aggression through depression</li> <li>Limits: seeking PTSD assessment, 81% Caucasian, created measure for aggression</li> </ul>	
Tsuang, Williams, Simpson, & Lyons (2002)	100 pairs of Vietnam-era male twins (49 monozygotic, 51 dizygotic). Religious affiliation: 50% organized religion; 36% non-active	X	X	X	To examine associations between spirituality & mental health variables in Vietnam-era twins	<ul style="list-style-type: none"> <li>Spirituality: religious well-being (10 items), existential well-being (10 items), Index of Spiritual Involvement from Index of Core Spiritual Experiences (4 items)</li> <li>Mental health: Multidimensional Personality Questionnaire (mod)</li> </ul>	<ul style="list-style-type: none"> <li>Constraint was + correlated w/ religious well- being &amp; existential well-being</li> <li>Limits: did not define variables (i.e. did not define constraint)</li> </ul>	
Wallace & Forman (1998)	4000-5000 high school seniors from Univ. of Michigan's Monitoring the Future Project (MTF). 48 contiguous states, roughly 135 high schools			X	To examine the relationship between religion & behavioral predictors of adolescent morbidity & mortality	<ul style="list-style-type: none"> <li>Religiosity: religious attendance (1 item), religious importance (1 item), religious affiliation (1 item)</li> <li>Aggressive behaviors: interpersonal violence (3 items), drinking while driving (1 item)</li> </ul>	<ul style="list-style-type: none"> <li>Religious youth &lt; non-religious youth on weapons, fighting, drinking &amp; driving</li> <li>Religious importance – correlated w/interpersonal violence, drinking &amp; driving</li> <li>Limits: carrying weapon in last 4 wks vs. fighting in last yr, not separated by gender</li> </ul>	
Wilson & Zigelbaum (1983)	114 Vietnam vets from a VA's "Operation Outreach"	X			To understand the relationship between stress syndromes & violent & non- violent criminal behavior	<ul style="list-style-type: none"> <li>VESI (includes behavioral tendencies, combat experiences, post-Vietnam legal convictions, symptoms of PTSD)</li> </ul>	<ul style="list-style-type: none"> <li>Exposure to war stressors correlated w/assault &amp; disorderly conduct</li> <li>PTSD severity correlated w/convictions for DUI's, disorderly conduct, assault</li> <li>Conviction for assault correlated w/PTSD</li> <li>Limits: pre-military legal problems not assessed, convictions only, all volunteers</li> </ul>	

(table continues)

Witvliet, Phipps, Feldman, & Beckham, (2004)	213 help-seeking vets w/PTSD from VA PTSD clinic, mainly African American vets		<b>X</b>	To assess the mental health correlates of religious coping in responses to adverse interpersonal events	<ul style="list-style-type: none"> <li>• PTSD: CAPS, DTS, Mississippi Coping Scale (14 items, + and - factors), Forgiveness of Others &amp; Forgiveness of Self Scales</li> <li>• Mental Health: BDI, STAI</li> </ul>	<ul style="list-style-type: none"> <li>• Negative religious coping &amp; difficulty forgiving oneself + correlated w/depression, anxiety, &amp; PTSD severity</li> <li>• + religious coping – correlated w/PTSD</li> <li>• Limits: all tx-seeking, higher combat exposure &amp; SES in non-completers</li> </ul>	Hostility
Yager, Laufer, & Gallops (1984)	1342 military age males (during Vietnam); 629 non-vets, 713 vets (350 served in Vietnam)	<b>X</b>		To examine which behavioral problems are associated w/military experiences	<ul style="list-style-type: none"> <li>• PTSD: Stress Scale (21 items)</li> <li>• Combat: list of combat experiences</li> <li>• Aggression: Psychiatric Epidemiology Research (angry feelings &amp; expression of hostility), arrest history</li> </ul>	<ul style="list-style-type: none"> <li>• Combat exposure + correlated w/rate of convictions, arrests, sx's of PTSD</li> <li>• Era &gt; non-vets on active hostility expression</li> <li>• Limits: retrospective report, cross-sectional design, excluded institutionalized subjects</li> </ul>	

*Note.*

*Abbreviations:*

sx's = symptoms

tx = treatment

dx = diagnosis

Ax/Ex = Anger Expression Scale

BDHI = Buss-Durkee Hostility Index

CAPS = Clinician Administered PTSD Scale

CES = Combat Exposure Scale

CES-D = Center for Epidemiological Studies – Depression

CTS = Conflict Tactics Scale

DIS = Diagnostic Interview Schedule

DTS = Davidson Trauma Scale

Ho = Cook-Medley Hostility Scale from MMPI

Mississippi = Mississippi Scale for Combat-Related PTSD

MMPI = Minnesota Multiphasic Personality Inventory

NSFH-1 = National Survey of Families and Households (1987-1988)

NVVRs = National Vietnam Veterans Readjustment Survey

PCL-M = PTSD Checklist Military Version

PMWI = Psychological Maltreatment of Women Inventory

SADS = Schedule for Affective Disorders & Schizophrenia

SCID = Structured Clinical Interview for DSM-III

SFVI = Standard Family Violence Index

STAI = State/Trait Anger Inventory

TRGI = Trauma-Related Guilt Inventory

VBI = Violent Behavior Index (from CTS)

VESI = Vietnam Era Stress Inventory (Wilson & Krauss, 1980)



## APPENDIX D

## Letter from the Principal Investigator Granting Permission for Use of Archival Data



DEPARTMENT OF VETERANS AFFAIRS  
 Palo Alto Health Care System  
 3801 Miranda Avenue  
 Palo Alto CA 94304

In Reply Refer To:

•  
 June 8, 2007

National Center for PTSD (VA Palo Alto Health Care System)  
 DATA USE AGREEMENT


As the principal investigator for protocol #80713, I am releasing a de-identified dataset to the undersigned individuals at **Pepperdine University**. The named individuals agree to the following conditions related to the use of the data.

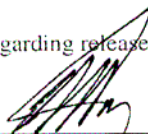
These data include information gathered from veterans who were participants in the National Center for Posttraumatic Stress Disorder, residential PTSD treatment program at the VA Palo Alto Health Care System with their informed consent. The data archive was collected by employees and volunteers at this agency under the supervision of **Kent Drescher, Ph.D.** As principal investigator, I received Stanford Institutional Review Board (IRB) approval and the VA Research and Development (R&D) Committee approval for the use of this data archive for research purposes. All identifying information will be removed from the dataset prior to releasing it outside the VA.

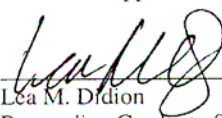
The VA manages its clinical and research data, fully in accordance with JCAHO and HIPAA guidelines. The VA R & D Committee reviews research, and human subjects oversight is provided through the Stanford University IRB panels.

- a. This release of this dataset is for the purpose of dissertation/masters project research and for collaborative professional presentations with members of the VA research team only.
- b. The recipients agree there will be no use or disclosure of the information other than permitted by this agreement or otherwise required by law.
- c. The recipients agree to use appropriate safeguards to prevent the use or disclosure of the information, except as provided for in the agreement, and agree to report to the VA / Principal Investigator any uses or disclosures in violation of the agreement of which the recipient becomes aware.
- d. The recipients agree to hold any agent of the recipient (including subcontractors) to the standards, restrictions, and conditions stated in the data use agreement with respect to the information.
- e. The recipients agree to not identify the information or contact the individuals.

The signatures below indicate agreement to the above terms regarding release / receipt of data.

  
 \_\_\_\_\_  
 Kent D. Drescher, Ph.D.  
 Principal Investigator  
 NCPTSD, VA Palo Alto Health Care System

  
 \_\_\_\_\_  
 David Foy, Ph.D.  
 Dissertation / Thesis Chair  
 Professor Pepperdine University

  
 \_\_\_\_\_  
 Lca M. Didion  
 Pepperdine Graduate Student

APPENDIX E

Demographics 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 domiciliary  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

40006



## Demographic Background

13. Branch of service (Check all that apply)
1. Army  4. Marines  
 2. Navy  5. Coast Guard  
 3. Air Force
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  2. Participated  
 1. Observed others  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

40006



## Demographic Background

### VII. LEGAL HISTORY

36. Have you **ever** been arrested since your discharge from the military? .....  No  Yes
37. In the **past 6 months**, were you arrested?? .....  No  Yes
38. Total number of arrests?    39. Total Number of convictions?    (Check all that apply)
40. Total months in jail?     41. Total months in prison?      Felony Conviction
42. Are you currently on probation or parole?? .....  No  Yes
43. Was treatment a condition of your probation/parole? .....  No  Yes
44. Are there any arrest warrants out for you at the present time? .....  No  Yes
45. Do you have any upcoming court dates scheduled? .....  No  Yes

### VIII. TREATMENT HISTORY

46. Approximately how many **SESSIONS** of outpatient treatment have you received in the **past year**?  
 None  1-6  7-12  13-26  26-52  53+
47. Approximately how many **DAYS** of inpatient psychiatric hospitalization have you received in the **past year**?  
 None  1-7  8-30  31-60  61-180  181+
48. Have you ever had serious thoughts of committing suicide? .....  No  Yes
49. Have you ever **ATTEMPTED** suicide in your lifetime? .....  No  Yes
50. Have you **ATTEMPTED** suicide in the **last 4 months**? .....  No  Yes
51. Total number of suicide attempts?    52. Year of Last Suicide Attempt?
53. To what extent have you taken personal responsibility for getting better in treatment?  
 Not at all  Slightly  Somewhat  Mostly  Completely
54. To what extent do you understand what you need to do to change?  
 Not at all  Slightly  Somewhat  Mostly  Completely
55. How willing are you to collaborate with staff in planning for your future treatment?  
 Not at all  Slightly  Somewhat  Mostly  Completely



## APPENDIX F

## High Risk Behaviors Questionnaire:

## Aggressive Behavior and Aggressive Driving Index

## Section 9: (AB)

**IMPORTANT: DEFINITION OF "AGGRESSIVE BEHAVIOR"** The following questions are about aggressive behavior. Aggressive behavior is defined as: 1) Making verbal threats to others; 2) Assaulting others; 3) Damaging property

1. Have you made verbal threats to others?
  - Yes, in the past 4 months prior to entering this treatment program (or an immediately prior treatment program).
  - Yes, but over 4 months ago
  - No, I have never done so
2. Have you assaulted others?
  - Yes, in the past 4 months prior to entering this treatment program (or an immediately prior treatment program).
  - Yes, but over 4 months ago
  - No, I have never done so
3. Have you intentionally damaged property?
  - Yes, in the past 4 months prior to entering this treatment program (or an immediately prior treatment program).
  - Yes, but over 4 months ago
  - No, I have never done so

## Section 10: (AD)

**IMPORTANT: DEFINITION OF "AGGRESSIVE DRIVING"** The following questions are about aggressive driving habits. Driving in an aggressive manner is defined as: 1) Engaging in verbal outbursts or making angry hand gestures while driving; 2) Tailgating, cutting other drivers off, chasing other drivers; 3) Driving after drinking or taking psychoactive drugs; 4) Intentionally drive your vehicle into another object (e.g., another car, tree, etc.)

1. Have you engaged in verbal outbursts or made angry hand gestures while driving?
  - Yes, in the past 4 months prior to entering this treatment program (or an immediately prior treatment program).
  - Yes, but over 4 months ago
  - No, I have never done so
2. Have you tailgated, intentionally cut-off, or chased other drivers?
  - Yes, in the past 4 months prior to entering this treatment program (or an immediately prior treatment program).
  - Yes, but over 4 months ago
  - No, I have never done so
3. Have you driven after drinking or taking psychoactive drugs?
  - Yes, in the past 4 months prior to entering this treatment program (or an immediately prior treatment program).
  - Yes, but over 4 months ago
  - No, I have never done so

## APPENDIX G

Brief Multidimensional Measure of Religiousness/Spirituality (BMMRS):

## Daily Spiritual Experiences Scale

**I feel God's presence.**

- Many times a day
- Every day
- Most days
- Some days
- Once in a while
- Never or almost never

**I find strength and comfort in my religion.**

- Many times a day
- Every day
- Most days
- Some days
- Once in a while
- Never or almost never

**I feel deep inner peace or harmony.**

- Many times a day
- Every day
- Most days
- Some days
- Once in a while
- Never or almost never

**I desire to be closer to or in union with God.**

- Many times a day
- Every day
- Most days
- Some days
- Once in a while
- Never or almost never

**I feel God's love for me, directly or through others.**

- Many times a day
- Every day
- Most days
- Some days
- Once in a while
- Never or almost never

**I am spiritually touched by the beauty of creation.**

- Many times a day
- Every day
- Most days
- Some days
- Once in a while
- Never or almost never



## APPENDIX H

## BMMRS: Religious Support Scale

**If you were ill, how much would the people in your congregation help you out?**

- A great deal
- Some
- A little
- None

**If you had a problem or were faced with a difficult situation, how much comfort would the people of your congregation be?**

- A great deal
- Some
- A little
- None

**How often do the people in your congregation make too many demands on you?**

- Very often
- Fairly often
- Once in a while
- Never

**How often are the people in your congregation critical of you and the things you do?**

- Very often
- Fairly often
- Once in a while
- Never

## APPENDIX I

## BMMRS: Forgiveness Scale

**I have forgiven myself for things that I have done wrong.**

- Always or almost always
- Often
- Seldom
- Never

**I have forgiven those who hurt me.**

- Always or almost always
- Often
- Seldom
- Never

**I know that God forgives me.**

- Always or almost always
- Often
- Seldom
- Never



## APPENDIX J

## BMMRS: Organizational Religiousness Scale

**How often do you go to religious services?**

- More than once a day
- Once a day
- A few times a week
- Once a week
- A few times a month
- Once a month
- Less than once a month
- Never

**Besides religious services, how often do you take part in other activities at a place of worship?**

- More than once a day
- Once a day
- A few times a week
- Once a week
- A few times a month
- Once a month
- Less than once a month
- Never

## APPENDIX K

## Beck Depression Inventory (BDI)

**Beck-D**

AdmitID                      Location                      Admin                      Date

    
 0  1     
      
  /   /

**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.



## 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 am purposely trying to loose weight by eating less.  
 I have lost more than 5 pounds.  
 I have lost more than 10 pounds.       No     Yes  
 I have lost more than 15 pounds.
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.