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Self-report and Longitudinal Predictors of Violence in Iraq and Afghanistan War Era Veterans

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Abstract

This study, using a longitudinal design, attempted to identify whether self-reported problems with violence were empirically associated with future violent behavior among Iraq and Afghanistan war veterans and whether and how collateral informant interviews enhanced the risk assessment process. Data were gathered from N = 300 participants (n = 150 dyads of Iraq and Afghanistan war veterans and family/friends). The veterans completed baseline and follow-up interviews 3 years later on average, and family/friends provided collateral data on dependent measures at follow-up. Analyses showed that aggression toward others at follow-up was associated with younger age, posttraumatic stress disorder, combat exposure, and a history of having witnessed parental violence growing up. Self-reported problems controlling violence at baseline had robust statistical power in predicting aggression toward others at follow-up. Collateral report enhanced detection of dependent variables: 20% of cases positive for violence toward others would have been missed relying only on self-report. The results identify a subset of Iraq and Afghanistan war veterans at higher risk for problematic postdeployment adjustment and indicate that the veterans' self-report of violence was useful in predicting future aggression. Underreporting of violence was not evidenced by most veterans but could be improved upon by obtaining collateral information.

In the process of delivering mental health care, clinicians working with veterans regularly assess for violence toward others. Empirical studies document that aggressive behavior toward others can be a problem in up to one third of Iraq and Afghanistan war veterans returning home from military service (Jakupcak et al., 2007; Killgore et al., 2008; Sayer et al., 2010; Teten et al., 2010; Thomas et al., 2010). Many veterans struggle with posttraumatic stress disorder (PTSD), major depressive disorder (MDD), and substance abuse (Burnett-Zeigler et al., 2011; Fear et al., 2010; Hoge et al., 2004; Seal et al., 2009; Tanielian and Jaycox, 2008; Thomas et al., 2010), the very same problems that have been shown to be associated with higher risk for violence and aggression in veterans who served

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in previous conflicts and eras of service (Beckham et al., 1997, 2000; Freeman and Rocca, 2001; Frueh et al., 2001; Lasko et al., 1994; McFall et al., 1999; Orcutt et al., 2003; Savarese et al., 2001; Taft et al., 2005).

Of the more than 70 empirical studies that have examined violence among veteran populations (Elbogen et al., 2010), there are still relatively few studies of Iraq and Afghanistan war veterans (Jakupcak et al., 2007; Killgore et al., 2008; Sayer et al., 2010; Thomas et al., 2010). Virtually all the extant research has been cross sectional (Elbogen et al., 2010) and relies on self-reported measures of violence without collateral report, a method through which violence is likely to be underreported (Mulvey and Lidz, 1993). No studies have prospectively examined the demographic, historical, military, and clinical characteristics associated with elevated violence among Iraq and Afghanistan veterans using the Structured Clinical Interview for Diagnostic and Statistical Manual of Mental Disorders (SCID) and collateral informants. None have examined whether veterans'self-reported problems with violence are predictive of future risk for aggression toward others.

Because thousands of troops are returning home from combat, there is a growing need for clinicians to be able to identify characteristics that place veterans at risk for violence toward others, but current empirical research provides scant guidance in this area. This study aimed to address these gaps in the literature and to identify factors that longitudinally predict future violence toward others among Iraq and Afghanistan war veterans by measuring data on aggression gathered from multiple sources.

Method

Participants

A total of N = 300 participants (n = 150 dyads of Iraq and Afghanistan war veterans and family members) were interviewed at the VISN 6 Mental Illness, Research, Education, and Clinical Center (MIRECC). The MIRECC houses a research registry of veterans who served in the US Armed Forces after September 11, 2001, and volunteered to be considered for clinical research studies. All veterans were separated from active duty or were in the National Guard/Reserves.

Procedures

Independent variables on veteran risk factors were gathered at a baseline interview. The veterans were recruited to the MIRECC registry through mailings, advertisements, and clinician referrals. If a veteran met the study inclusion criteria described above, he/she completed informed consent procedures that were approved by Veterans Affairs institutional review boards at multiple sites in North Carolina and Virginia. After consenting to participate, the veterans were administered the SCID, a semistructured interview for Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, axis I diagnoses, and questions concerning postdeployment adjustment. After the interview, the veterans were compensated for their time and travel expenses.

Dependent variables on the veterans' violence toward others were gathered from follow-up interviews. At an average of 3 years after the baseline interview, the veterans in the MIRECC registry were contacted by telephone and asked to participate in an NIMH study, which served as the follow-up interview for the current study. This time, the veterans were invited to select a close family member or friend to serve as a collateral informant. If both the veteran and his or her collateral informant agreed to participate, face-to-face interviews were scheduled at the MIRECC and conducted separately with the veteran and the collateral informant. Sixty-five percent of the collateral informants were spouses, and the remaining

35%were parents, adult children, or friends. The veterans and the collateral informants were compensated for their time and travel expenses after the interviews.

Baseline Measures/Independent Variables

Demographic variables included the veterans' education, age, sex, marital status, ethnicity, and work status. With respect to historical factors, the Traumatic Life Events Questionnaire was used to measure the veterans' witnessing family violence growing up and being a survivor of child physical or sexual abuse (Clancy et al., 2006). Military characteristics included highest military rank, months deployed, number of deployments, and service status (active service or Reserves/National Guard). Combat exposure was measured using the Combat Exposure Scale (Keane et al., 1989). PTSD and MDD were assessed using the SCID (Spitzer et al., 1995). The Drug Abuse Screening Test (DAST) was used to measure veteran drug misuse, which is defined as a DAST score of greater than 2 (Skinner, 1982). The Alcohol Use Disorder Identification Test (AUDIT) was used to measure veteran alcohol misuse, which is defined as an AUDIT score of greater than 7 (Bradley and Bush, 1998). Self-reported problems controlling violence was assessed at baseline with the following question: “During the past 30 days, have you had trouble controlling violent behavior (that is, hitting someone)?”

Follow-up Measures/Dependent Variables

The veterans and the collateral informants reported on other-directed, non-combat-related violence/aggression perpetrated by the veteran in the past year by completing the Conflict Tactics Scale (Straus, 1979) and the MacArthur Community Violence Scale (Steadman et al., 2000). Severe violence was defined as the endorsement of specific scale items related to the use or threat of use of weapons or sustained physical violence (i.e., “Used a knife or gun,” “Beat up the other person,” “Threatened the other person with a knife or gun,” “Did you threaten anyone with a gun or knife or other lethal weapon in your hand?” “Did you use a knife or fire a gun at anyone?” and “Did you try to physically force anyone to have sex against his or her will?”). Other physical aggression was defined as the endorsement of scale items related to other physically aggressive acts (i.e., kicking, slapping, using fists, and getting into fights).

Analysis

The SAS version 9.1 was used for analyses. Descriptive statistics were used to ascertain demographic, historical, military, and clinical characteristics and to convey data on self-report versus collateral report of veteran violence toward others. Bivariate associations between baseline risk factors and follow-up violence measures were based on nonparametric Spearman's correlation procedures. Logistic regression procedures were used for multivariate analyses. Component variables were subsequently subjected to stepwise deletion to obtain a reduced model; exclusion criteria were set at $p < 0.05$. Given that the time between the baseline and follow-up clinical interviews varied among the participants, analyses included a dummy variable that denoted the number of days between the interviews conducted with any given participant.

Results

At baseline, the sample was predominately men (81%) with a median age of 39 years. Approximately two thirds of the respondents were married (63%), half reported postYhigh school education (57%), and one third were white (37%). Seventy-nine percent reported some form of employment. One third (36%) reported witnessing their parents fighting, and 32% reported experiencing physical or sexual abuse before the age of 18 years. In terms of military service, 9% had officer level or higher rank, 48% were in the Reserves or National

Guard, 27% reported having served more than a year in Iraq or Afghanistan, and 23% had multiple deployments. Clinically, 20% met the SCID diagnostic criteria for PTSD; 19%, for MDD; 11%, for drug misuse; and 17%, for alcohol misuse.

The mean time between the baseline and follow-up interviews was 2.8 years (range, 1.5–4.1 years). At follow-up, 12% of the veterans self-reported acts of severe violence in the past year, whereas 5% of the collateral informants reported that their paired veterans had engaged in severe violence; when data sources were combined, 15% of the veteran sample was positive for report of acts of severe violence. Correspondingly, 39% of the veterans self-reported other acts of physical aggression in the year before, whereas 25% of the collateral informants reported that their paired veterans engaged in other physical aggression; when combined, 48% of the sample reported committing other aggressive acts.

Analysis of the data showed that 50% of the reported violent acts were endorsed by the veterans only, 20.3% were reported by the collateral informants only, and 29.7% of all violent acts were endorsed by both collateral informants and veterans. Bivariate analyses showed that collateral-only reports of veteran violence were significantly associated with the veterans' marital status ($r = 0.21$, $p = 0.009$); specifically, if the veterans were married, then collateral data improved detection of violence/aggression. Type of collateral informant (spouse versus other family/friend) was not associated with significant difference in detection, although there was a trend for the spouses to report aggression more often than other family/friends (29% vs. 19%).

Table 1 shows bivariate associations between baseline risk factors and dependent variables gathered at follow-up. Severe violence and other physical aggression were related to PTSD, MDD, alcohol misuse, having witnessed family violence, combat exposure, and military rank. Age at baseline interview and history of childhood abuse predicted other physical aggression. Table 2 presents the derived multivariate models for each of the two violence outcomes. The final model for severe violence was significant ($R^2 = 0.207$, chi-sqr = 18.83, df = 2, $p < 0.0001$). Increased odds of severe violence to others were associated with PTSD and combat exposure. The final model for other physical aggression was also significant (R2 = 0.355, chi-sqr = 45.85, df = 5, $p < 0.0001$). Increased odds of other physical violence were associated with age, PTSD, combat exposure, having witnessed parental violence, and problems controlling violence.

Discussion

This study is one of the first to examine the usefulness of self-report and collateral interview information in determining long-term risk for violence among Iraq and Afghanistan veterans. PTSD and combat exposure predicted future violence/aggression by the veterans, which is consistent with previous research (Jakupcak et al., 2007; Taft et al., 2007; Teten et al., 2010). With respect to historical variables, witnessing family violence was strongly related to future aggression whereas history of abuse was not. Although age was marginally related to other physical aggression, other demographic variables also showed little association with violence. Combat exposure was the only military variable determined to be robustly predictive of violence. Duration of deployment to Iraq or Afghanistan (more than 1 year) was not associated with an increased risk for severe violence.

The analyses do highlight the increased importance of clinical variables in determining which Iraq and Afghanistan veterans are at risk for more chronic violent behaviors. Diagnosis (as measured by the SCID) is important. Presence of PTSD predicted both severe violence and other physical aggression, and both MDD and alcohol abuse were identified as playing a role in increasing violence risk. In addition to improving the predictive ability of

assessment for future violence, clinical interventions aimed at mitigating the effects of treatable predictive factors such as PTSD, MDD, and alcohol abuse hold promise for reducing long-term postdeployment adjustment problems in the current veteran cohort.

The current findings support clinicians' close monitoring of veteran clients for aggressive thoughts, impulses, and behaviors. The results of this study support that veterans are willing to reveal information about violence/aggression if asked, and self-reported problems controlling violence still predicted future violent behaviors, consistent with recent empirical research in civilian populations (Skeem, Machak, Lidz, and Mulvey, 2013). Specifically, in the current study, report of aggressive impulses predicted future physical aggression in veterans. A positive response to the question, “During the past 30 days, have you had trouble controlling violent behavior (that is, hitting someone)?” was significantly related to future violence. Clinical intuition and the common practice of inquiring about violent behavior are empirically supported by this study.

The current data also support the benefit of seeking information about violence and aggression in the veteran population from collateral informants. Descriptions of behaviors related to the clinician by family members or friends can provide more evidence, or at times the only evidence, that a behavior of concern has occurred and thus can play a crucial role in ensuring appropriate clinical intervention. The married veterans tended to have collaterals report more instances of violence and aggression that the veteran himself/herself did not report. Regardless of how this may be related to the dynamics of their relationships, it identifies the importance of spouses as preferred informants in violence risk assessment. Future research is needed to further examine links between type of social relationship, frequency of social contact, and improvement in reporting behaviors of aggression and violence.

This study was not intended to provide prevalence estimates of violent behavior among Iraq and Afghanistan war veterans. The current findings do not translate to use in civil commitment proceedings or other contexts involving assessment of imminent violence risk. This study was not designed to and did not measure that level of risk.

The current study does, however, elucidate factors by which to gauge longer-term risk for other-directed violence. Awareness of these factors can assist clinicians in their work with Iraq and Afghanistan veterans and help further scientific investigation in this area. Veterans with characteristics found in the final multivariate models should receive more monitoring and supervision by clinicians about violence-related/aggression-related behaviors, ideations, and mental health problems. The data from the current study can be used to help identify a subset of veterans who may be at longer-term risk for engaging in violent and aggressive behaviors.

A limitation of this study is the lack of other collateral information regarding the participants' histories of aggression. History of violence remains a pertinent a factor that has been linked to future aggression. Although self-selection of the participants may have affected generalizability, the current sample was representative of Iraq and Afghanistan war veteran populations on key variables. Nineteen percent of the sample consisted of female veterans, closely paralleling the actual proportion of women (16%) in the US military. Fifty-two percent of the veterans in this study were in active duty service, and 48% were in the Reserves or National Guard. The current study rates of 20% PTSD, 19% MDD, 17% alcohol misuse, and 17% head injury fall within ranges from large population samples of Iraq and Afghanistan war veterans (Burnett-Zeigler et al., 2011; Hoge et al., 2004, 2008). Although the current study sample had more racial minority veterans than the broader military does, this variable is related neither to outcomes nor to violence in veteran or civilian research

(Elbogen et al., 2010). The self-reported rate of aggression in the current study is consistent with recent research showing that approximately one third of Iraq and Afghanistan war veterans report recent aggression to others (Elbogen et al., 2012; Sayer et al., 2010; Thomas et al., 2010).

In sum, the current study reveals a number of clinical factors associated with long-term risk for violence among Iraq and Afghanistan veterans. By pinpointing these factors, clinicians and policy makers can target interventions to reduce symptoms associated with specific diagnoses or problem areas (i.e., alcohol misuse) and aim to reduce risk for dangerousness to others among veteran populations. The findings also strongly indicate that the first step in managing violence risk is simply to ask veterans and available collateral informants about violence and aggression, regardless of how much time has passed since discharge from military service. Given that aggressive behavior toward others has been identified as a significant problem among Iraq and Afghanistan war veterans, our hope is that increased attention to the risk factors identified by the current study and to the usefulness of self-reports and collateral informant reports of violence/aggression will contribute to development of practical interventions to assist in reducing risk for harm to others by the veteran population.

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Table 1

Risk Factors for Long-Term Harm to Others among Veterans

	Severe Violence at Follow-up			Other Aggression at Follow-up		
Risk Factors at Baseline	***r***	***p-value***		***r***	***p-value***	
Posttraumatic Stress Disorder	0.22	0.007	***	0.31	<.001	***
Major Depressive Disorder	0.28	<.001	***	0.26	0.001	**
Witnessed Family Violence	0.16	0.05	***	0.29	<.001	***
History of Child Abuse	0.17	0.04	*	0.15	0.06	+
Combat Exposure	0.16	0.06	+	0.27	<.001	***
Drug Misuse	0.32	<.001	***	0.13	0.102	n.s.
Alcohol Misuse	0.09	0.28	n.s.	0.18	0.026	*
Over a Year Deployed	0.28	<.001	***	0.16	0.052	+
Employed	−0.20	0.02	*	−0.10	0.203	n.s.
LOC	0.20	0.02	*	0.11	0.181	n.s.
Age	−0.19	0.02	*	−0.15	0.074	+
Rank > Officer	−0.04	0.62	n.s.	−0.18	0.028	*

Note: n.s. not significant;

The following were not significant for harm to self or others: gender, education, ethnicity, active vs. reserve, number of deployments, or marital status.

+ p<.10;

* p<.05;

** p<.01;

*** p<.001.

TABLE 2

Multivariate Models of Violence to Others among Iraq and Afghanistan Veterans

	Severe Violence			Other Physical Aggression		
	Odds Ratio	***Confidence Interval***	***p-value***	***Odds Ratio***	***Confidence Interval***	***p-value***
Age			n.s.	0.96	0.93–1.00	0.031
PTSD	3.01	1.11–8.17	0.0305	4.87	1.70–13.92	0.003
Combat Exposure	6.49	1.80–23.35	0.0042	2.34	1.08–5.07	0.032
Witnessed Parental Violence			n.s.	3.47	1.53–7.87	0.003
Problems Controlling Violence			n.s.	8.71	1.73–43.79	0.009
	R^2=0.21, AUC=0.76 χ^2=18.83, *df*=2, *p*<0.001			R^2=0.36, AUC=0.80 χ^2=45.85, *df*=5, *p*<0.001		

The demographic, military, and clinical variables measures not shown also had a nonsignificant relationship with violence and other physical aggression in the multivariate analyses, which both control for days between the initial and follow-up interviews. AUC indicates area under the curve; NS, not significant.