POST-TRAUMATIC STRESS DISORDER AND COPING IN VETERANS WHO ARE SEEKING MEDICAL TREATMENT

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The present study examined psychological coping styles and mental health treatment histories in veterans with PTSD. This study also served as a replication and extension of an earlier investigation that assessed the prevalence of PTSD in World War II, Korea, and Vietnam combat veterans who were seeking medical treatment. Thirty-six combat veteran medical patients were compared to 38 war-era controls. Nearly a third of the combat veterans met psychometric criteria for PTSD; none of the controls met these criteria. Both PTSD-positive subjects and mental health treatment seekers showed a significantly greater use of emotion-focused coping. Results also showed that Vietnam combatants were more likely to have received individual mental health treatment. These findings and their treatment implications are discussed.

Numerous studies have established a strong positive association between the intensity of combat exposure and the symptoms of post-traumatic stress disorder (PTSD; Foy, Carroll, & Donahoe, 1987; Foy, Resnick, Sipprelle, & Carroll, 1987; Foy, Sipprelle, Rueger, & Carroll, 1984; Gallers, Foy, Donahoe, & Goldfarb, 1988; Green, Grace, Lindy, & Gleser, 1990; Kulka et al., 1990). Psychological coping may be another critical factor related to PTSD and may be important in any of three ways: (a) style of coping may predispose individuals toward developing PTSD; (b) coping style may be an associated feature of PTSD; and (c) symptoms of PTSD and related problems may produce differences in coping style.

PTSD, by definition, involves coping in the form of avoidance of thoughts, feelings, and situations that are reminiscent of traumatic events. (Cf. criterion C for PTSD within DSM-III-R, American Psychiatric Association, 1987.) Horowitz (1987) and others have made such avoidance a central aspect of his theory of PTSD. Coping has been defined as having two main components: (a) to regulate emotions after stressful encounters (emotion-focused coping); and (b) to change the environment that produced the stress (problem-focused coping) (Folkman & Lazarus, 1980, 1985). Coping behavior typically involves both functions and is invoked in nearly all stressful encounters (Folkman & Lazarus, 1980, 1985). Emotion-focused coping, however, appears to be related negatively to psychological adjustment (Andrews, Tennant, Hewson, & Vaillant, 1978; Billings & Moos, 1981). Problem-focused coping is related to fewer physical and psychological problems (Billings, Cronkite, & Moos, 1983; Billings & Moos, 1981), and

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infrequent use of this coping style is associated with poorer mental health (Mitchell, Cronkite, & Moos, 1983).

Nezu and Carnevale (1987) found that Vietnam combat veterans with PTSD exhibited more emotion-focused and less problem-focused coping than both well-adjusted combat veterans and Vietnam-era veterans with little or no combat experience. In addition, combat veterans with PTSD reported fewer problem-focused coping strategies than combat veterans with adjustment problems other than PTSD, even though they were all seeking help for their psychological problems (Nezu & Carnevale, 1987).

Solomon, Mikulincer, and Flum (1988) examined the coping styles of Israeli combat veterans of the 1982 Lebanon conflict using the Ways of Coping Checklist (Folkman & Lazarus, 1980) as revised by Parkes (1984). Results indicated that the degree to which subjects endorsed symptoms of PTSD 1 year after the war was correlated significantly with emotion-focused coping ($r = .42$). More recently, Fairbank, Hansen, and Fitterling (1991) administered an early version of the Ways of Coping Checklist (Lazarus & Folkman, 1984) to groups of 10 WW-II repatriated prisoners of war (RPWs) with a diagnosis of PTSD, 10 RPWs without a PTSD diagnosis, and 10 war-era nonRPWs. RPWs with PTSD were significantly more likely to utilize self-isolation, wishful thinking, self-blame, and social support to cope with their war memories.

These findings raise several issues about coping and psychological treatment seeking with respect to PTSD. First, it is not clear whether the tendency to favor emotion-focused over problem-focused coping is specific to veterans of recent wars (Vietnam, Israel conflicts), but not war veterans in general or those from earlier wars (World Wars, Korea). Second, the relationship of coping styles to mental health treatment seeking remains unexplored. Third, the relationship between mental health help-seeking across wars (World War II, Korea, Vietnam) in war combatants (vs. war-era veterans), and in PTSD combatants (vs. non-PTSD combatants), also has not been well explored.

The present study examined psychological coping in World War II, Korea, and Vietnam veterans who were consecutively admitted to medical units of a veterans hospital. It was hypothesized that the existence of PTSD symptomatology in combat and noncombat veterans would be associated with an under-utilization of problem-focused coping and an over-reliance upon emotion-focused coping. The study was also a replication and extension of an earlier investigation (Blake et al., 1990), and was designed to: (a) obtain further prevalence data on PTSD in combat veteran medical patients by employing a psychometric cross-validation strategy; (b) compare the predominant psychological coping styles used by PTSD and non-PTSD and across wars eras; and (c) examine the subjects' history of mental health treatment vis à vis PTSD status and coping styles.

Method

Subjects

Three hundred sixty-nine medical patients who were consecutively admitted to a Veterans Medical Center during a 4-month period and who had served in the military during a war era were identified for participation in the study. One hundred sixty-eight of these patients (45.5%) were contacted prior to their discharge and were asked to participate. Potential subjects were informed that the study was designed to obtain information about the stress experienced by veterans during and after their military experience in an effort to improve the care provided to these veterans.

Sixty-four medical patients (38% of those contacted) agreed to participate, of whom 36 were combat veterans and 28 were war era veterans. Reasons for nonparticipation included: refusal to participate (33 or 19.6%), discharged without returning questionnaire packet (25 or 14.9%), and too ill or physically unable to complete the questionnaires (46 or 27.4%). Of this latter medically disabled category, 3 (6.5%) were from the Vietnam-era group, 9 (19.6%) from the Korea group, and 34 (73.9%) from the World

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War II group. Of the participating subjects, 32 (50%) had served during World War II, 9 (14%) had served during the Korea War, and 23 (36%) had served during the Vietnam War.

Procedure

Questionnaires were distributed to combat veterans and matched control subjects within a week of admission by two predoctoral Clinical Psychology interns and one staff psychologist. The subjects completed a battery of questionnaires composed of a demographic data sheet that included questions that pertained to psychological treatment history, a measure of combat exposure, two measures of combat-related PTSD, and a coping scale.

Demographic Data Questionnaire. Subjects were compared on several demographic variables, including marital and employment status; branch of service; type of military duty; and amount, type of, and benefit from psychiatric treatment.

Combat Exposure Scale (CES; Keane et al., 1989). The CES is a 7-item, single-factor questionnaire for quantifying extent of combat experience. Each item is rated on either a 4- or 5-point Likert scale (from least to greatest), and CES scores, after item weighting, can range from 0 to 41.

Mississippi Scale for Combat-related PTSD (Keane, Caddell, & Taylor, 1988). The Mississippi Scale is composed of 5-point Likert scale items that measure PTSD-related symptomatology. Thirty-five items assess sleep disturbance, concentration difficulties, social adjustment, anger and impulse control, and exaggerated startle response.

MMPI PTSD Scale (MMPI-PK; Keane, Malloy, & Fairbank, 1984). The MMPI PTSD scale is comprised of 49 items of the MMPI (Hathaway & McKinley, 1967) that maximally discriminate PTSD-positive from PTSD-negative Vietnam combat veterans. For its use in this study, the PTSD items were extracted from the MMPI and were utilized as a stand-alone instrument.

Ways of Coping Checklist—Revised (Folkman & Lazarus, 1985; Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986). The Ways of Coping Checklist contains 67 4-point Likert scale items (from "not used' to "used a great deal"), which assess various methods of psychological coping. Subjects were asked to complete the scale as it pertains to their most stressful experience during the previous 30 days. The Ways of Coping Checklist contains eight subscales that tap a broad array of cognitive and behavioral coping strategies. The names of these subscales and their coefficient alpha reliabilities as reported by Folkman et al. (1986) are as follows: (a) Confrontive coping (.70); (b) Accepting responsibility (.66); (c) Distancing (.61); (d) Seeking social support (.76); (e) Positive reappraisal (.79); (f) Self-control (.70); (g) Escape-avoidance (.72); and (h) Planful problem-solving (.68).

Confrontive coping refers to highly active or aggressive efforts to change the stressor situation. Accepting responsibility involves the explicit acknowledgment of responsibility or partial responsibility for the stressor situation. Distancing consists of items that describe efforts made to detach oneself from or make light of the stressor situation. Seeking social support involves efforts made to solicit emotional, informational, or tangible support. Positive reappraisal refers to attempts made to look at the positive or constructive side of the stressor situation. Self-control involves efforts made to manage one's own emotions or behavior. The escape-avoidance subscale consists of items that describe attempts to escape or avoid the stressful situation and efforts to engage in wishful thinking. Planful problem-solving involves productive- and problem-oriented attempts to change the stressor situation. The first and last subscales, confrontive coping and planful problem-solving, are considered to be problem-focused coping strategies. The subscale "seeking social support" possesses characteristics of both problem- and emotion-focused coping, and the remaining five subscales involve emotion-focused coping.

Results

Basic demographic data by war are presented in Table 1. These data show a general equality across groups except for age and current employment status. A statistically significant difference was found among the groups for age, $F(2,61) = 165.5, p < .001$. Post hoc comparisons revealed significant differences among all possible pairs of the three war-era groups. The groups did not differ significantly in number of years of education, $F(2,60) = 1.66, p = .199$, number of past hospitalizations, $F(2,58) = .12, p = .88$, and total number of months spent in the hospital, $F(2,55) = 1.1, p = .34$. A chi-square analysis showed a significant difference among the war-era groups in terms of employment status, $\chi^2(6) = 21.1, p < .01$. Most Korea- and World War II-era veterans were retired (67% and 69%, respectively); most of the Vietnam-era veterans in the sample were either employed (30%) or unemployed (52%). The remaining chi-square analyses on the demographic and military data showed no significant differences among the groups for relative numbers of combatants, $\chi^2(2) = 2.32$, $p = .31$, prisoners-of-war, $\chi^2(2) = 2.43, p = .297$, and combatants who were wounded in action, $\chi^2(2) = .43$, $p = .81$. The groups also did not differ in their members' branch of service, $\chi^2(8) = 14.7$, $p = .065$, and service duties, $\chi^2(4) = 4.48, p = .34$.

Table 1
Sample Characteristics: Age and Military Service Parameters

Parameter	War era: World War II (n = 32)		Korean War (n = 9)		Vietnam War (n = 23)	
Age (SD)**	68.9	(4.0)	60.0	(3.3)	43.7	(6.7)
Number of combatants (%)	21	(65.6%)	4	(44.4%)	11	(47.8%)
Number of POWs (%)	3	(9.4%)	1	(11.1%)	0	
Service branch (%)						
Army	17	(53.1%)	3	(33.3%)	15	(65.2%)
Navy	6	(18.8%)	3	(33.3%)	1	(4.3%)
Air Force	3	(9.4%)	3	(33.3%)	2	(8.7%)
Marines	3	(9.4%)	0		5	(21.7%)
Other	3	(9.4%)	0		0	
Duties (%)						
Mainly combat	11	(34.4%)	1	(11.1%)	8	(34.8%)
Combat support	8	(25.0%)	1	(11.1%)	6	(26.1%)
Service support	13	(40.6%)	7	(77.8%)	9	(39.1%)
Employment status (%)*						
Employed	5	(15.6%)	1	(11.1%)	7	(30.4%)
Unemployed	3	(9.4%)	2	(22.2%)	12	(52.2%)
Retired	22	(68.8%)	6	(66.7%)	3	(13.0%)
Other	2	(6.3%)	0		1	(4.3%)
Wounded in combat (%)						
Yes	7	(21.9%)	1	(11.1%)	4	(17.4%)
No	25	(78.1%)	7	(77.8%)	19	(82.6%)
Missing	0		1	(11.1%)	0	
Years of education (%) (SD)	13.1	(3.6)	10.8	(2.5)	12.7	(2.9)
Total	12.7	(3.3)				
Number of hospitalizations (SD)	6.1	(9.4)	6.1	(7.7)	5.0	(4.8)
Months hospitalized (SD)	30.5	(56.1)	4.7	(5.5)	26.9	(68.5)

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

Psychological treatment data by war-era are presented in Table 2. Of the subjects who indicated that they had in their lifetimes received mental health services, no war-era differences were found for relative numbers who had received treatment for anxiety, $\chi^2(2) = .52$, $p = .77$, depression, $\chi^2(2) = 2.13$, $p = .34$, suicidality, $\chi^2(2) = .46$, $p = .79$, nor were groups differences found for subjects who received group, $\chi^2(2) = 1.77$, $p = .41$, medication, $\chi^2(2) = 4.98$, $p = .083$, behavioral, $\chi^2(2) = .78$, $p = .68$, or psychoanalytic, $\chi^2(2) = .63$, $p = .73$, forms of treatment. A significant difference among the groups was found, however, for subjects who received individual therapy, $\chi^2(2) = 10.97$, $p < .01$; proportionally, the Vietnam-era groups showed the highest use of individual treatment.

Table 2
Psychological Treatment Characteristics of Veteran Medical Patients with Self-reported Histories of Mental Health Treatment (n = 30)

Treatment	War Era: World War II (n = 15)	Korea War (n = 3)	Vietnam War (n = 12)
Received treatment for anxiety (%)	8 (53.3%)	2 (67.7%)	9 (75.0%)
Received treatment for depression (%)	10 (67.7%)	1 (33.3%)	8 (67.7%)
Received treatment for suicidality (%)	3 (20.0%)	1 (33.3%)	6 (50.0%)
Received individual treatment* (%)	9 (75.0%)	0	12 (100.0%)
Received group treatment (%)	6 (40.0%)	0	7 (58.3%)
Received pharmacotherapy (%)	9 (75.0%)	2 (67.7%)	4 (33.3%)
Received psychoanalysis (%)	3 (20.0%)	0	3 (25.0%)
Received behavior therapy (%)	1 (6.7%)	0	2 (16.7%)

*$p < .01$.

Combat exposure and PTSD test data by combatant status are presented in Table 3. These data show that combatants had greater combat exposure and PTSD symptomatology than their war-era counterparts. Interestingly, two members of the non-combat group reported dangerous duty during their military service, which left a non-zero CES total for their group. One-way analysis of variance by war era indicated no significant differences on the CES, Mississippi Scale, or MMPI-PK among veterans of different war eras.

Eleven veterans (30.6%) were designated as PTSD-positive by the screening criterion used in the National Vietnam Veterans Readjustment Study (NVVRS; Kulka et al., 1990), i.e., Mississippi scores equal to or greater than 89 and a MMPI-PK scale score greater than 15. These criteria applied to the war combatants are shown in Table 4.

On the Ways of Coping Checklist, the majority of the subjects (61.7%) identified their medical condition as the most significant stressor in the past month. Seven subjects (11.7%) reported interpersonal loss, such as death of a loved one, and interpersonal conflict, such as arguing with others, was reported by 5 subjects (8.3%). Eleven veterans (18.3%) reported unique, miscellaneous stressors, such as being mugged or looking for

Table 3
Sample Characteristics: Means and Standard Deviations of Psychometric Data by Combatant Status

Instrument	Status: Combatants (n = 36)	Status: Noncombatants (n = 29)	t
Combat Exposure Scale	19.5 (11.7)	1.1 (3.7)	7.87*
Mississippi Scale	85.0 (24.9)	68.8 (11.2)	3.08*
MMPI-PTSD subscale	17.3 (12.3)	9.6 (8.7)	2.65*

*$p < .01$.

Table 4
Combat Veteran Medical Patient PTSD Status as Indicated by Established Criteria from the MMPI PTSD Subscale (>15 raw) and the Mississippi Scale (>88 total)*

Total		Mississippi Scale: No	Mississippi Scale: Yes	Row	%
MMPI PTSD subscale	No	17 (47.2%)	2 (5.6%)	19	52.8
	Yes	6 (16.7%)	11 (30.6%)	17	47.2
Column		23	13	36	
Total %		63.9	36.1		100.0

*$\chi^2 = 9.19$, $p < .05$ (Yates' corrected).

housing. Internal reliability of the checklist was assessed by computing coefficient alphas for each subscale. These data, and the intercorrelations among the subscales, are presented in Table 5. All subscales had high internal consistency.

Table 5
Reliabilities and Intercorrelations of Coping Scales

Scale	Alpha	Measure 1	2	3	4	5	6	7	8
1. Confrontive coping	.61		.46*	.41*	.28	.47*	.40*	.56*	.35*
2. Planful problem-solving	.78			.58*	.51*	.68*	.74*	.47*	.12
3. Seeking social support	.78				.33*	.33*	.61*	.35*	.24
4. Distancing	.65					.55*	.52*	.41*	.33*
5. Self-controlling	.67						.53*	.48*	.45*
6. Positive reappraisal	.82							.53*	.28
7. Accepting responsibility	.69								.54*
8. Escape-avoidance	.70								

*$p < .01$.

Data analyses showed no differences between combatants and noncombatants in their use of coping skills, although there was a trend for non-combatants to report seeking social support, $t(55) = 1.85$, $p = .069$. t-tests calculated between PTSD-positive ($n = 11$) and PTSD-negative combatants ($n = 22$) showed that, in contrast to earlier work, PTSD-positive combat veterans did not report using significantly less problem focused coping than did non-PTSD veterans (Figure 1). However, PTSD veterans as a group relied more on forms of emotion-focused coping that included accepting responsibility ($t = -2.4$; $p < .05$) and escape-avoidance ($t = -2.2$; $p < .05$).

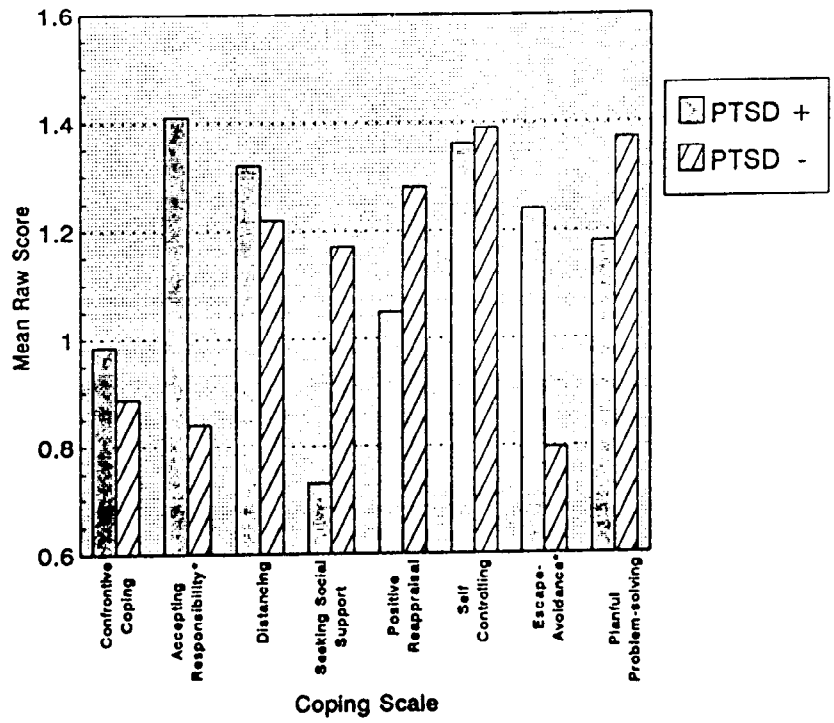

FIG. 1. Coping patterns by PTSD status: Medical patients.

Coping strategies of subjects who had received treatment from mental health professionals in the past were compared to those without a treatment history. There were no differences in problem-focused coping between those who had ever seen a mental health professional and those who had not. Among emotion-focused coping strategies, subjects who had a mental health treatment history were more likely to accept responsibility for the problem ($t = -3.20$, $p < .005$) and to employ escape-avoidance as a coping strategy ($t = -3.46$, $p < .005$). In addition, subjects who previously had seen a mental health professional showed a tendency to use self-control as a coping strategy ($t = -1.92$, $p = .06$).

DISCUSSION

The findings of the study are several. First, the results of the Blake et al. (1990) study have been replicated in showing substantial PTSD rates in combat veterans who seek medical services. Furthermore, the findings support earlier work that showed

Table 6
Comparison of Coping Strategies by Mental Health History

	Has seen mental health professional (n = 30)		Has not seen mental health professional (n = 22)		
	M	*SD*	*M*	*SD*	*t*
Confrontive	.94	.51	.78	.49	−1.21
Planful problem-solving	1.32	.77	1.16	.67	−.82
Seeking social support	1.24	.66	1.06	.64	−1.09
Distancing	1.27	.59	1.04	.55	−1.49
Self-controlling	1.41	.56	1.14	.53	−1.92*
Positive reappraisal	1.27	.81	1.04	.70	−1.11
Accepting responsibility	1.19	.67	.64	.63	−3.20**
Escape-avoidance	1.12	.56	.67	.42	−3.46**

*$p < .10$. **$p < .005$.

significant PTSD symptomatology in veterans of Korea and World War II (Archibald & Tuddenham, 1965; Black & Keane, 1982; Blake et al., 1990; Hamilton & Canteen 1987; Lipton & Schaeffer, 1986, 1988; Richmond & Beck, 1986).

Second, Vietnam veterans were found to be significantly more likely to use individual mental health services. This finding may reflect greater psychological disturbances in the Vietnam War veteran population or may attest to the greater acceptance of treatment-seeking in the younger age cohort.

Third, the findings presented here support earlier work that has shown coping skill patterns in combat-related PTSD and were found to apply to veterans of the Korean War and World War II. However, the hypothesis that PTSD veterans tend to use problem-focused coping was not supported. PTSD-positive combat veterans were found to rely more heavily on acceptance and escape-avoidance coping behaviors than their non-PTSD counterparts. The finding that PTSD veterans accept responsibility more than non-PTSD combat veterans may seem incongruous until one realizes that this scale also involves the construct of self-blame (Folkman & Lazarus, 1985), a coping pattern found in the repatriated prisoners of war diagnosed with PTSD who were studied by Fairbank et al. (1991). Viewed in this way, acceptance is not an entirely desirable coping strategy and, in fact, is consistent with features often associated with the disorder (particularly guilt). Similarly, escape-avoidance has been codified as a significant aspect of the disorder, as is apparent in criterion C of the diagnostic category (American Psychiatric Association, 1987). Thus, the acceptance and escape-avoidance coping strategies found here to distinguish PTSD adhere to its formally recognized phenomenology.

Finally, Green, Lindy, and Grace (1988) found that coping strategies that involved emotional expression and sublimation/comparison strategies were related to positive outcome from short-term therapy. Our findings indicate that emotion-focused coping strategies of accepting responsibility (self-blame) and escape-avoidance are used predominantly by PTSD combat veterans and veterans who are seeking mental health treatment. Therefore, it appears that group treatment that avoids these negative coping strategies and that includes the positive coping strategies cited by Green et al. (1988) would produce the most beneficial outcome.

A number of other implications for PTSD treatment are suggested by these findings. First, problem-focused coping skills taught earlier in life (i.e., pre-trauma, such as in military basic training) may help prevent or mitigate PTSD development in military personnel exposed to combat. Along these lines, an alternative is to assess problem-solving

skills in individuals and, for those found deficient in one or more forms of coping, institute formal training in this skill. Second, for individuals already exposed to trauma, treatment might include assessing coping style, followed by remedial training in deficient areas.

The results reported here support the growing literature on PTSD and on coping skills. While further study clearly is warranted, these findings have immediate relevance to understanding PTSD. Coping styles may provide a critical piece in the pursuit of an adequate model for conceptualization, assessment, and treatment of this complex disorder, which results from exposure to traumatic events. In addition, this study suggests that those individuals with PTSD who seek psychological assistance may differ in important ways from those individuals with PTSD who seek medical care.

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