0022-3018/97/18511-0675$03.00/0
THE JOURNAL OF NERVOUS AND MENTAL DISEASE
Copyright © 1997 by Williams & Wilkins
Vol. 185, No. 11
Printed in U.S.A.

Social Support and Psychopathology in the War Zone

ALAN FONTANA, PH.D.,[1,2] ROBERT ROSENHECK, M.D.,[1,2] AND THOMAS HORVATH, M.D.[2,3]

Unit cohesion and homecoming support are examined for their protective effects on the development of posttraumatic stress disorder (PTSD) and other psychopathology. Data on 1198 male theater veterans were taken from the National Vietnam Veterans Readjustment Study. Unit cohesion had no significant relationship, as a direct effect, to either PTSD or other psychopathology. In a pattern that was *opposite* to predictions from the buffering hypothesis of support, however, a high level of unit cohesion in combination with high war zone stress was associated with the highest levels of PTSD and psychopathology. This is consistent with Israeli experiences, suggesting that unit cohesion may have detrimental long-term effects on psychological well-being. In contrast, homecoming support was related negatively as a direct effect to both PTSD and other psychopathology. In addition, interaction results, consistent with the buffering hypothesis, suggest that the protective effects of homecoming support are magnified for veterans with high compared with low levels of exposure.

— *J Nerv Ment Dis* 185:675–681, 1997

Over the years, people have looked to social support as a source of protection against the adverse effects of exposure to stress (*e.g.*, Cobb, 1976; Cohen and Syme, 1985; Sarason et al., 1989; Uchino et al., 1996). The benefits of social support have been held to be both direct, operating at all levels of stressful exposure, and conditional, operating more strongly at high levels of exposure (*e.g.*, Gerin et al., 1995; Kessler et al., 1985). These differential effects by level of exposure are specified in what has been called the buffering hypothesis of support (*e.g.*, Gore, 1981; Thoits, 1982). The rationale for the hypothesis is that social support is not needed when exposure is absent or low, but that social support serves as a useful resource when exposure is high and people's abilities to cope with it are taxed (Hobfoll, 1985).

Cohesion and morale have long been believed to be important to the optimal functioning of a military unit in performing its duties (von Clausewitz, 1941). Since the Second World War, they have also been recognized as playing an important role in the physical and psychological well-being of individual soldiers (Stouffer, 1949). Bourne (1970, 1972) was among the first to express concern that there were two conditions in the Vietnam conflict that differed from those in World War II and the Korean conflict and that might have undermined the development and availability of unit support. One was the policy of a fixed tour of duty known as DEROS (Date Expected to Return from Overseas). Troops were observed to become preoccupied with their individual dates of return to the detriment of their identification with the fate of their unit. The second was that the ease of communication with home detracted from emotional investment in their unit. The implication attributed to these conditions of lowered cohesion was that they might eventually prove to contribute to higher casualties than those reported initially.

Israeli experiences in the Yom Kippur War of 1973 provided further empirical support to the belief that unit cohesion is a significant factor in mitigating the effects of stressful exposure. In one study, soldiers with a combat stress reaction were four times as likely to report little cohesion in their unit compared with those without a combat stress reaction (Noy, 1978). In another study, paratroopers manifesting combat stress reactions reported both significantly lower levels of unit morale and less trust of their commanders than troopers without a combat stress reaction (Steiner and Neumann, 1978). In part due to these findings, during the Lebanon War in 1982, unit cohesion was mobilized explicitly in the treatment of combat stress reactions close to the front by arranging for visits from unit members (Gal, 1986). These efforts have been credited with contributing to the high percentages of troops who returned to combat (Belenky et al., 1983; Toubiana et al., 1986).

Despite the foregoing theory and data, some have warned that there may be a downside to unit cohesion as well. Milgram and Hobfoll (1986) have suggested that a high degree of unit cohesion may

[1] Northeast Program Evaluation Center (182), Evaluation Division of the VA National Center for PTSD, VA Connecticut Healthcare System, 950 Campbell Avenue, West Haven, Connecticut 06516. Send reprint requests to Dr. Fontana.
[2] Department of Psychiatry, Yale University School of Medicine, New Haven, Connecticut.
[3] Department of Veterans Affairs, Washington, D.C.

obtained from the Diagnostic Interview Schedule (Robins et al., 1981). We characterized the presence of any one of a major depressive episode, manic episode, dysthymic disorder, panic disorder, obsessive compulsive disorder, or generalized anxiety disorder as the presence of another axis I affective or anxiety disorder (mean = .20, SD = .40).

Social support in the war zone was represented by the cohesiveness of the veterans' unit, and support outside the war zone was represented by support from family and friends at the time of their homecoming. Unit cohesion (mean = 19.0, SD = 3.42) was measured as the sum of five items: competence of unit leadership, trust in unit members, helpfulness of unit members toward others, understanding of self by unit members, and emotional closeness to unit members (Cronbach alpha = .72). Homecoming support (mean = 15.80, SD = 1.46) was measured as the sum of two components of support from family and friends: their helpfulness in times of need or emergency as measured by four items (Cronbach alpha = .78), and their availability for talking to and confiding in as measured by three items (Cronbach alpha = .64).

Social desirability was included as a control variable for response bias in reporting on war zone exposure, unit cohesion, homecoming support, and symptoms. The NVVRS included 10 items of the Marlowe-Crowne Social Desirability Scale (Crowne and Marlowe, 1960). This 10-item scale (mean = 15.27, SD = 2.46, Cronbach alpha = .67) was correlated significantly with all of the preceding variables.

In addition, eight sociodemographic variables that were found to be associated significantly with all or some of the exposure, support, and symptom variables were included as control variables as well. These were age (mean = 42.09, SD = 5.35), years of education (mean = 13.39, SD = 2.37), Hispanic ethnicity (mean = .23, SD = .42), and the following characteristics of veterans' childhood: family instability (mean = 2.88, SD = 1.91), conduct disorder behaviors (mean = 1.78, SD = 1.89), physical abuse (mean = .45, SD = .98), drug use (mean = .01, SD = .11), and parental mental illness or substance abuse (mean = .22, SD = .41).

Data Analysis

The relationships between war zone exposure, unit cohesion and homecoming support and psychopathology were first evaluated by two factorial multivariate analyses of covariance (MANCOVA), with social desirability and the sociodemographic variables as covariates. Then univariate analyses of covariance (ANCOVA) were conducted for each measure of psychopathology separately. The dichotomization derived by the NVVRS was utilized in the present study. Unit cohesion and homecoming support were dichotomized at the median of their distributions.

The interactions between exposure on the one hand and unit cohesion and homecoming support on the other are the components of the analyses that are germane to the buffering hypothesis as stated above. The two theoretically relevant comparisons among the four cell means for each ANCOVA are between high and low cohesion/support within each level of exposure. The buffering hypothesis predicts that psychopathology will be higher for subjects with low compared with high cohesion/support within high exposure, but there will be no or less difference in psychopathology for subjects within low exposure. These a priori comparisons among cell means were evaluated by *t*-tests.

Results

The MANCOVA for exposure and unit cohesion produced a significant main effect for exposure ($F = 106.83$, 2,1109 *df*, $p < .0001$), a nonsignificant main effect for unit cohesion ($F = 1.37$, 2,1109 *df*, $p > .25$), and a significant interaction between exposure and unit cohesion ($F = 10.12$, 2,1109 *df*, $p < .0001$). The MANCOVA for exposure and homecoming support yielded significant main effects for both exposure ($F = 85.61$, 2,1109 *df*, $p < .0001$) and homecoming support ($F = 43.06$, 2,1109 *df*, $p < .0001$), and a significant interaction between exposure and homecoming support ($F = 16.71$, 2,1109 *df*, $p < .0001$).

The ANCOVAs yielded highly significant main effects for exposure with both PTSD ($F = 213.34$, 1,1110 *df*, $p < 0.0001$) and other psychiatric disorders ($F = 42.59$, 1,1110 *df*, $p < 0.0001$), indicating greater psychopathology with greater exposure. Neither the main effect for PTSD ($F = 1.80$, 1,1110 *df*, $p > .15$) nor for other psychiatric disorders ($F = 2.04$, 1,1110 *df*, $p > .15$) was significant for unit cohesion. The main effects for both PTSD ($F = 84.62$, 1,1110 *df*, $p < 0.0001$) and other psychiatric disorders ($F = 22.10$, 1,1110 *df*, $p < 0.0001$) were highly significant for homecoming support, however, indicating greater psychopathology with less support.

The interaction results are presented below in detail for each of the analyses. In general, however, the pattern of results for unit cohesion was opposite to that predicted by the buffering hypothesis, whereas the pattern for homecoming support was consistent with the predicted pattern. That is,

TABLE 2
Means and Interaction Effects Between Exposure and Homecoming Support for PTSD and Other Psychiatric Disorders

Disorder	War Zone Exposure	Homecoming Support (Means) High	Homecoming Support (Means) Low	Significant Mean Differences	Interaction Effects F	Interaction Effects df	Interaction Effects p
PTSD	High	0.22	0.47	L > H	32.39	1,1110	.0001
	Low	0.10	0.16	L > H			
Other psychiatric	High	0.19	0.38	L > H	9.84	1,1110	.002
	Low	0.13	0.17				

that such units were highly cohesive. Paradoxically, cohesiveness might have opposite effects on the nature and availability of support, both of which might be problematic if carried to an extreme. One possible effect is that the more cohesive the unit, the more members share the interpretation of their exposure as dangerous or horrific with each other. The more widely exposure is shared and interpreted in this way, the less available others are to offer a countervailing view. Cohesiveness would then have the effect of exacerbating the negative appraisal of the exposure. The opposite possibility is that members might want to avoid dealing with their stressful exposure. The more cohesive the unit the wider might be a "conspiracy of silence" about the exposure. Under these conditions, cohesiveness would have the effect of inhibiting the processing of members' feelings and thoughts about the exposure.

The difficulty of traumatized members acting as a support to each other might have a counterpart in the difficulty of rap groups serving as a therapeutic forum for their members. Smith, among others, has noted the particularly strong potential for destructiveness as well as helpfulness in the rap group format (Smith, 1985). Because of the strong anger and guilt that are aroused by discussion of war experiences, there is a danger that resistance to self-exploration will lead to a repetitious retelling of stories and a narrowing of acceptable topics and reactions. Rather than exploring the full range of their own thoughts and feelings, members are often drawn into limiting themselves to those themes that are approved and rewarded by the group ethos. Typically, the group ethos has encouraged members to dwell on negative experiences and self-images. Rather than considering ways in which the conditions of war may have forced them to participate in killing and abusive behaviors, and powerfully limited their choices, members of such groups tend to reinforce each other's despair, focusing relentlessly on the grimmest aspects of their experiences, while ignoring the possibilities for healing and personal recovery.

A second aspect of the interactions between unit cohesion and exposure was contrary to the buffering hypothesis and deserves examination, namely, that unit cohesion acted protectively at low levels of exposure when little or no effect was predicted. This pattern can be reconciled with the buffering hypothesis if one adopts the position that there was no truly low exposure condition in the Vietnam theater. The guerrilla nature of the war made the threat of attack ubiquitous. There were no truly safe zones where veterans could lower their guard. It is possible that what qualified as relatively low exposure to stress in the Vietnam theater was comparable to what would qualify as high exposure in civilian life. If that were the case, this second aspect of the interactions between unit cohesion and exposure would be consistent with the buffering of exposure by support. The interaction findings for homecoming support add credence to this interpretation in that, within the significant interaction for PTSD, there was a significantly greater predicted prevalence among those who had low compared with high levels of support even when exposure was low.

The results for homecoming support, in contrast to those for unit support reported above, are strikingly consistent with the buffering hypothesis. It may be that one of the conditions enabling people to be supportive, in the sense of helping to mitigate the effects of traumatic exposure, is that they have not been subjected to the trauma themselves. That is not to say that people who have been exposed themselves cannot be helpful but that it might be especially difficult for them to be so. The danger is that they may end up exacerbating the traumatic effects.

We have noted elsewhere that the homecoming appears to be a critical event in determining whether acute stress reactions are either diminished to subclinical intensity or are preserved undiminished to become recognized at some later point as PTSD (Fontana and Rosenheck, 1994). Our earlier work dealt only with the main effects of the homecoming. The present study indicates that these effects are magnified among those veterans with high levels of exposure. Many veterans return home with doubts concerning the legitimacy and justifiability of their violent and destructive actions during wartime.

Stouffer S (1949) *The American soldier: Combat and its aftermath.* Princeton, NJ: Princeton University Press.

Thoits PA (1982) Conceptual, methodological, and theoretical problems in studying social support as a buffer against life stress. *J Health Soc Behav* 23:145–159.

Toubiana Y, Milgram N, Noy S (1986) A therapeutic community in a forward army field hospital: Treatment, education, and expectancy. In N Milgram (Ed), *Stress and coping in time of war: Generalizations from the Israeli experience* (pp 117–128). New York: Brunner Mazel.

Uchino BN, Cacioppo JT, Kiecolt-Glaser JK (1996) The relationship between social support and physiological processes: A review with emphasis on underlying mechanisms and implications for health. *Psychol Bull* 119:488–531.

von Clausewitz K (1941) *On war.* OJ Matthijs Jolles (Trans). New York: Modern Library.

Wilson JP, Krauss GE (1985) Predicting post-traumatic stress disorders among Vietnam veterans. In W Kelly (Ed), *Post-traumatic stress disorder and the war veteran patient* (pp 102–147). New York: Brunner Mazel.