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Problems in Families of Male Vietnam Veterans With Posttraumatic Stress Disorder

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Interviews were conducted with a nationally representative sample of 1,200 male Vietnam veterans and the spouses or coresident partners of 376 of these veterans. The veteran interview contained questions to determine the presence of posttraumatic stress disorder (PTSD) and items tapping family and marital adjustment, parenting problems, and violence. The spouse or partner (S/P) interview assessed the S/P's view of these items, as well as her view of her own mental health, drug, and alcohol problems and behavioral problems of school-aged children living at home. Compared with families of male veterans without current PTSD, families of male veterans with current PTSD showed markedly elevated levels of severe and diffuse problems in marital and family adjustment, in parenting skills, and in violent behavior. Clinical implications of these findings are discussed.

Clinicians often see patients whose symptomatology creates distress for family, friends, fellow workers, and even strangers. Individuals closest to a person with a major psychiatric disorder may suffer most, and the effects of such problems can extend from one generation to the next. Prior research has supported the observation that psychiatric disorders have a serious negative impact on those around the disturbed individual (Swan & Lavitt, 1988; Watt, Anthony, Wynne & Rolf, 1984).

Posttraumatic stress disorder (PTSD), one possible sequela to exposure to an unusual and intensely disturbing event, often exerts such a strong and pervasive negative influence on those around the sufferer. Some studies of individuals who have been exposed to such events have focused on problems in their families. For example, problems in the families of Holocaust survivors and the transgenerational effects on their children have been studied by a number of investigators (Bergman & Jucovy, 1982; Danieli, 1985; Rakoff, 1966; Wanderman, 1979). Findings suggest that there are a number of different pathological reactions among children of Holocaust survivors, including depression, mistrust, aggression, emotional numbing, and isolation.

In recent years, the effect of PTSD on family relationships, spouses, and children of combat veterans has also been examined. A variety of problems that can negatively affect the family have been found to be associated with combat-related PTSD: difficulties with family cohesion and expressiveness (Solomon, Mikulincer, Fried, & Wosner, 1987); the veteran's problems with intimacy and sociability (Roberts et al., 1982); the veteran's problems with self-disclosure, expressiveness, physical aggression, and relationship adjustment (Carroll, Rueger, Foy, & Donahoe, 1985); and the veteran's deficiencies in interpersonal problem-solving skills (Nezu & Carnevale, 1987).

Among wives of veterans with PTSD, Verbosky and Ryan (1988) found increased levels of stress as a result of attempts to cope adequately with the veteran's PTSD symptoms; they also found that the majority of the wives verbalized feelings of worthlessness. Both Williams (1980) and Matsakis (1988) reported that about 50% of all Vietnam veterans' wives that they treat have been battered. In a survey of counselors from 100 Vet Centers (Matsakis, 1988), the problems most commonly reported for wives of Vietnam veterans were coping with the veteran's problems; loneliness and social isolation; feeling con-

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fused, overwhelmed, and responsible; feeling a loss of identity and a loss of control over one's life; and self-blame.

In the Vet Center counselor survey, the most commonly reported problems for children of Vietnam veterans were low self-esteem; aggressiveness; developmental difficulties; impaired social relationships; and symptoms mirroring those of the veteran. Problems of the children of Vietnam veterans with PTSD reported in the literature include "secondary traumatization" (Rosenheck & Nathan, 1985) and elevated risk of developing behavior or psychiatric problems (Davidson, Smith, & Kudler, 1989).

This study improves on the methodology of previous studies of the effects of PTSD on families by recruiting a community sample rather than a treatment-seeking sample to compare levels of problems in the families of Vietnam veterans with and without PTSD. By using a national probability sample, we are able to represent in this study the families of all male Vietnam veterans living with a person to whom they were married or living with as though married at the time of the study (see the Method section). This study also extends previous research on families of those exposed to extreme stress by examining a broader range of problems in these families. Finally, this study presents findings based on information gathered from both the veteran and the veteran's significant other, allowing a comparison of perceived family problems from two viewpoints.

In this article[1] we compare the prevalence rates for marital, relationship, family role, and adjustment problems in the families of male Vietnam theater veterans who have PTSD with the rates for families of male Vietnam theater veterans who do not. Only data for male theater veterans are reported because the Spouse/Partner Interview (SPI) included too few male partners of female theater veterans with PTSD to provide reliable estimates.

Method

The results reported are from two component studies of the NVVRS: (a) the survey interview component, the National Survey of the Vietnam Generation (NSVG), and (b) the Spouse/Partner Interview (SPI) component.

Subjects

Veteran survey sample: National Survey of the Vietnam Generation (NSVG). Data for the NSVG come from in-depth, face-to-face, household interviews that averaged 3 to 5 hr. Veteran respondents were selected randomly from the military records of all veterans who served during the Vietnam era: men and women, those from all branches of the service, and enlisted personnel and officers. The random selections were done separately for two groups of veterans: those who served in Vietnam or its surrounding waters or air space during the period August 5, 1964 to May 7, 1975 (Vietnam theater veterans) and those serving elsewhere during the period (Vietnam era veterans). Consent was obtained from respondents prior to the interview. A total of 3,016 interviews were completed in the NSVG, including 1,200 with male theater veterans. The response rate was over 83% for Vietnam theater veterans. Detailed analyses using military records data were conducted to identify differences between veteran respondents and nonrespondents. Although these analyses revealed no important differences, in all analyses sampling weights were adjusted to compensate for nonresponse as well as for differing selection probabilities. All findings presented in this article are for male Vietnam theater veterans and their families.

SPI sample. On the basis of NSVG interview responses, we selected for the SPI the households of all veteran respondents who appeared to be cases of PTSD and a subset who appeared to be noncases. Noncases were selected to overinclude veterans with high levels of combat exposure or high levels of nonspecific psychological distress. Of the 862 cases selected, 585, or approximately 68%, had a spouse or partner (a person with whom the veteran was living as though married) living in the household.

The response rate for the SPI was 80%. Respondents included 376 S/Ps of male theater veterans, all of whom were of the opposite sex from the veteran. For the analyses presented in this article, the data from the SPI were weighted to compensate for differences in the selection probabilities among the various groups so that the data provide unbiased national estimates for the population of all male theater veterans with a coresident spouse or partner. Age, sex, and race or ethnicity were used as strata for the development of these weights, which were also adjusted for nonresponse.

Clinical examination veteran subsample. Although data from the National Vietnam Veterans Readjustment Study (NVVRS) follow-up clinical examination interview are not a focus of this article, they are relevant to our findings, because this interview served as the basis for PTSD case determination in the NVVRS. The clinical examination was designed to provide a more thorough, and therefore, in principle, a more accurate diagnostic assessment for a subset of veteran respondents. (Details of the selection process for inclusion in the clinical interview may be found in Kulka et al., 1991). The clinical examination included the Structured Clinical Interview for *DSM–III–R,* Non-Patient Version (Spitzer, Williams, & Gibbon, 1987); a Minnesota Multiphasic Personality Inventory PTSD scale (Keane, Malloy, & Fairbank, 1984); the Impact of Event Scale (Horowitz, Wilner, & Alvarez, 1979); the Stress Response Rating Scale (Weiss, Horowitz, & Wilner, 1984); and the Global Assessment Scale (Endicott, Spitzer, Fleiss, & Cohen, 1976). The clinical examination included 440 veteran respondents, and the response rate was 85%.

Measures

Descriptions of the measures include the target of each assessment (veteran, S/P, family, or children) and the person providing the information for the assessment (veteran or S/P). In some cases, for example, the Marital Problem Index, a particular index was developed twice—once using data from the veteran and once using data from the S/P—allowing a comparison of the two perspectives.

PTSD (target = veteran; informant = self-report). Assessment of PTSD was of central importance to the objectives of the NVVRS (Kulka et al., 1990b). A multiple-indicator (multisource, multimethod) diagnostic assessment was used to identify PTSD cases because a multiple-indicator assessment is the least subject to random error that may occur with any instrument. We included several PTSD measures in the NSVG interview: the Mississippi Combat Scale for Combat-Related PTSD (the Mississippi Scale; Keane, Caddell, & Taylor, 1988), a Diag-

[1] Specifically, this article presents findings related to marital and family relationships, and to the problems of wives and children, of male Vietnam veterans. The data were collected between November 1986 and May 1988 as part of the National Vietnam Veterans Readjustment Study (NVVRS), in which nationally representative samples of veterans who served in the Vietnam theater of operations, veterans who served elsewhere during the Vietnam war, and civilian controls were interviewed.

nostic Interview Schedule-like PTSD module, and a detailed assessment of exposure to traumatic events.

Although it was not feasible to conduct the more comprehensive clinical assessment with all study participants, having done so with a reasonably large subsample ($n = 440$) provided us with the opportunity to examine the bias associated with each of the PTSD measures included in the NSVG and to correct statistically for bias in any analyses based on the NSVG assessment. In the analyses presented in this article, PTSD case identification was based on the Mississippi Scale and was adjusted for bias relative to the multimeasure clinical assessment. Thus, the findings represent the best estimate of what the findings would have been if all NSVG participants had undergone the comprehensive clinical examination. The statistical adjustment process has been described in detail elsewhere (Kulka et al., 1990a, p. D30–D34); detailed examination of the impact of the adjustment procedure suggested that for most variables, the impact was small.

Marital Problems Index (target = marital unit; informants = veteran and S/P). To generate an index of marital problems (for both those married and those living as married), we examined a group of items tapping a broad range of adjustment problems in marital and relationship roles that had been selected from several sources, including studies by Veroff, Douvan, and Kulka (1981) and Campbell, Converse, and Rodgers (1976), the Dyadic Adjustment Scale (Spanier, 1976), and the Psychiatric Epidemiology Research Interview (PERI) Marital Dissatisfaction Scale (Dohrenwend, 1982). The items selected included marital or relationship happiness, problems getting along, amount of companionship, number of quarrels, and amount of satisfaction felt during the past year with the marriage or relationship. Items were coded on a 6-point scale (0 to 5). In a principal components analysis, all items loaded on a single factor. The Marital Problems Index was created by taking the mean of the items. The coefficient alpha for this index was .94 in our sample of S/Ps and .92 in our sample of veterans.

Parental Problems Index (target = veteran; informant = veteran). An index of parental problems was created from a set of items also adapted from Campbell et al. (1976), Veroff et al. (1981), and Dohrenwend (1982). The four items (which we found to be moderately to highly correlated) used in the index assessed the extent to which respondents felt their children presented problems for them, the extent to which they found being a parent enjoyable, their degree of satisfaction in getting along with their children, and their satisfaction as a parent with the way their children were developing. Items were coded from *low* (1) to *high* (5). The Parental Problems Index is the mean of the items. The coefficient alpha for the index in our sample of veterans was .80.

Family Adjustment Index (target = family unit; informants = veteran and S/P). To derive an overall measure of family adjustment, we included in the NSVG interview and in the SPI the 30 items from the Family Adaptability and Cohesion Evaluation Scales (FACES II; Olson, Bell, & Portner, 1978; Olson et al., 1983). This index is based on a circumplex model with two primary dimensions—adaptability and cohesion—and family adjustment consists of the degree of balance in both areas. The FACES II has been found to have an alpha reliability of .90 and a test–retest reliability of .90. It has also been found to discriminate between problem and nonproblem (control) families in studies of runaways and family therapy clients (Olsen et al., 1983). The original FACES II has two forms, one for couples with children and the other for couples without children. Because of restrictions in sample sizes, analyses of this measure were conducted separately for all couples and for couples with children.

Socioeconomic status of S/P's occupation (target = S/P; informant = veteran). Occupation was coded using the 1980 census classification scheme developed by Stevens and Cho (1985). Theoretically, socioeconomic status scores range from 0 to 100.

Level of Life Functioning Index (target = veteran; informant = S/P). We included in the SPI 14 items to assess the life adjustment of the coresident veteran. These items had been used previously in an investigation of stress, work, and unemployment among Vietnam veterans and nonveterans (Vinokur, Caplan, & Williams, 1987). The items tapped the S/P's view of how well the veteran had done during the past week in several areas, such as getting along with others, handling disagreements, showing affection, and accepting responsibilities. A 5-point scale was again used, ranging from *very poorly* (1) to *exceptionally well* (5). An index was created as the mean of the individual items, which were found in a principal components analysis to form one general factor. The coefficient alpha for the index in our sample of S/Ps was .95.

Family violence measures (target = veteran and S/P; informant = S/P). Using data from the SPI, four indices were created to assess family violence in the past year: two (the standard and alternate) based on the veteran's behavior as reported by the S/P and the same two based on the behavior of the S/P as self-reported. The Standard Family Violence Measure is the Violence subscale of Straus's (1979) Conflict-Tactics Scale (CTS) and is derived from eight items assessing violent behavior. Straus found coefficient alphas for the Violence subscale to range from .62 to .88 and has provided evidence of the construct validity of the CTS.

Because of the investigators' concern that an individual who infrequently exhibits several different types of violent acts may receive a higher score on the standard measure than an individual who exhibits only one or two types of violent acts but does so with great frequency, we developed the Alternate Family Violence Measure, which is the total number of violent acts committed in the past year. In addition to the eight items used in the standard index, the alternate index includes one additional item, *threatened to* hit or throw something, because threats may also be perceived as a form of abuse. The coefficient alphas for this index in our sample were .80 for the veteran sample and .91 for the S/P sample.

Index of Subjective Well-Being (target = S/P; informant = S/P). The interview contained two questions about the respondents' overall perceived happiness and life satisfaction. The first item, adopted from Gurin, Veroff, and Feld (1960), asked whether "taking things all together," the respondent was very happy, pretty happy, or not too happy "these days." The second, a life satisfaction measure taken from Veroff et al. (1981), asked, "In general, how satisfying do you find the way you're spending your life these days?" The variables were summed to create an overall Index of Subjective Well-Being, ranging from *not too happy/not at all satisfying* (2) to *very happy/completely satisfying* (6). The correlation between two component variables was .48.

PERI Demoralization (nonspecific distress) Scale (target = S/P; informant = S/P). Eight of the original scales from the PERI (Dohrenwend, 1982; Dohrenwend, Levav, & Shrout, 1986) were found by the developers to correlate quite highly with one another, and together they appeared to reflect a latent construct very similar to "demoralization" as originally described by Frank (1973). Consequently, they were combined into one scale, and a 27-item short form was developed. Dohrenwend et al. (1986) reported an internal consistency reliability of .90 for the Demoralization scale and reported on the scale's ability to discriminate between community residents and two other groups, psychiatric inpatients and drug addicts, thus demonstrating its utility as a screener for psychiatric problems.

Social Isolation Index (target = S/P; informant = S/P). We created an index of isolation, using measures of social support adapted from Donald and Ware (1984); Card (1983); Veroff et al., (1981); Cohen, Mermelstein, Kamarck, and Hoberman (1985); and others. A Social Isolation Index was created that gave the S/P one point for having each of the following: no close friends, no close relatives, no friends or relatives that she could "tell just about anything to," and problems that she could not discuss with friends or relatives. The total score, then, ranged from 0 to 4. The coefficient alpha in our sample was .69.

Alcohol problems measure (target = S/P; informant = S/P). We used the Brief Michigan Alcoholism Screening Test (Brief MAST; Pokorny, Miller, & Kaplan, 1972) to assess the alcohol problems of the S/P. The Brief MAST is a short form of the MAST (Selzer, 1971) that has been found to correlate highly (r = .99) with the long form. Pokorny and colleagues found that, using the Brief MAST, none of the known alcoholics they studied were below a cutpoint of 6 on the scale, and only 7 of the 62 known nonalcoholics were above this cutpoint. Using this criterion, the variable is coded *nonalcoholic* and *probable alcoholic.* The coefficient alpha in our sample was .82.

Drug problems measure (target = S/P; informant = S/P). Because so few S/Ps reported current drug use, the values for this variable are *doesn't use drugs* and *uses drugs.*

Nervous breakdown measure (target = S/P; informant = S/P). The SPI included the item, "When problems come up, have you ever felt as though you were going to have, or were close to having, a nervous breakdown?" A similar item used in both the 1957 and 1976 Americans View Their Mental Health studies (Gurin et al., 1960; Veroff et al., 1981) was an important predictor of mental health service use.

Total Behavior Problems Score from the Child Behavior Checklist (CBCL; target = children living with the vet; informant = S/P). To assess the problems of the children of Vietnam veterans, we asked the S/P to complete the CBCL (Achenbach, 1978) for each child between ages 6 and 16 years currently living in the household. The developers of the CBCL have reported the overall intraclass coefficient for interparent agreement on item scores to be .985, the intraclass coefficient for 3-mo stability of mother's rating of individual items to be .838, and the Pearson correlation of scale scores for 1-wk test–retest using mother's rating to be .890 (Achenbach & Edelbrock, 1983).

We used the Total Behavior Problems Scale of the CBCL for our analyses. Most previous research with the CBCL used a particular child as the unit of analysis. For the analysis of the SPI interview, we were concerned with differences in problems across all of the children in the family of the veteran. To examine such differences, we created two measures: the CBCL score of the child with the most problems is the (T) score of the child aged 6 to 16 years with the highest number of problems, and the average CBCL score is the mean T score across all children aged 6 to 16. The cutpoint used for both variables is the 90th percentile for the standardization group, which is Achenbach's normal/clinical cutpoint. The *normal-range* group was then subdivided into two groups, *no/few problems* and *some problems,* using a T score of 50. (A T score of less than 50 indicates that the probability that the child's score came from a clinical sample is approximately 10% or less.) The *clinical-range* group was subdivided using the T score that created two approximately equal-sized groups (ignoring PTSD status and sex of veteran). This cutpoint was 67/68.

Statistical Tests

Tests of group differences for nominal variables are for chi-square tests of the hypothesis that the distribution of the outcome variable differs significantly in some unspecified way across the PTSD and no-PTSD groups. For ordinal variables, a more stringent hypothesis was tested, that is, that one group tended toward higher values than the other. The Wald test statistic, which is distributed approximately as chi-square with one degree of freedom, was used for ordinal variables.[2] Means are given where appropriate but differences in means were not tested.

For some measures, to provide additional information about the group differences, we generated tests with a single degree of freedom. These tests corresponded to the difference between the subgroup percentage estimates at each level of the outcome variable. These additional tests were done to pinpoint the particular cell or cells of the overall table that statistically differed between the PTSD and no-PTSD groups. In such cases, the footnote symbol denoting the significance level is presented in the tables beside the category (table row) found to differ significantly across groups, rather than beside the variable name.

We did not use a formal procedure to control the experiment-wise error rate (e.g., the Bonferonni procedure) in the NVVRS. This was because (a) the NVVRS was a quasi-experimental study designed to focus on specific planned contrasts (e.g., veterans with PTSD vs. those without), and (b) we relied on consistency of findings to cull out spurious results. That is, our confidence in the validity of the statistical tests of contrasts between the PTSD and no-PTSD groups for a specific outcome is increased by consistency of findings across contrasts, and any inconsistency decreased our confidence. In addition, most of the tests for differences were significant at or beyond the .01 alpha level. Because the percentage of tests that would be found by chance to be statistically significant is proportional to the significance level, for the 22 outcome variables (see Tables 2, 4, 5, and 6), we would expect that no more than one of the tests presented would have been found to be significant by chance alone, even if a .05 alpha level was used.

Results

Sociodemographic Characteristics of Vietnam Veterans

Table 1 presents population estimates from the NSVG for selected sociodemographic characteristics of all male theater veterans in our sample. Male veterans with PTSD were younger, on the average, (M = 39.8 years) than those without the disorder (M = 41.81 years) by about 2 years. The chi-square for differences in the distributions was significant, $\chi^2(3, N = 1{,}136) = 17.57$, $p < .001$. Although both those with and those without PTSD were likely to have at least a high school diploma, to be currently married, and to be currently working, the PTSD group was less educated (M = 12.37 years vs. M = 13.27 years), $\chi^2(4, N = 1{,}190) = 31.40$, $p < .001$, and less likely to be currently working (69.4% vs. 94.5%), $\chi^2(3, N = 1{,}187) = 47.29$, $p < .001$, or to be currently married (62.7% vs. 77.8%), $\chi^2(1, N = 1{,}190) = 12.28$, $p < .001$. In fact, those without PTSD were three times more likely to have gone to graduate or professional school. Furthermore, men with PTSD were five times as likely as those without the disorder to be unemployed and twice as likely to have never married. Of men who had ever married, those with PTSD were twice as likely to have been divorced.

Veterans' Assessment of Marital and Family Problems

Table 2 includes NSVG data only for those male veterans who were married or living as married at the time of the interview and provides findings concerning current family and relationship problems as self-reported. As shown in Table 2, men with PTSD were significantly more likely to report marital or relationship problems (Marital Problem Index score without PTSD, M = 1.74; with PTSD, M = 2.54), $\chi^2(1, N = 932) = 42.8$,

[2] An extension of the Mann-Whitney statistic (Koch & Edwards, 1988) was actually calculated for the ordinal variables. However, because the distribution of G, the probability that a randomly selected subject from the first group has lower outcome categories than a randomly selected subject from another group, can become skewed, statistical tests concerning it were based on its logistic-transformed value, $F = \log_e(G/1 - G)$, and the corresponding Wald test statistic was used.

Table 1
Distribution of Selected Sociodemographic Characteristics of Male Vietnam Theater Veterans

Characteristic	Group: Without PTSD (n = 871)[a] %	SE	With PTSD (n = 319)[a] %	SE
Age (years)**				
≤36	11.0	1.2	13.3	2.8
37–39	29.4	1.9	47.7	4.1
40–42	28.6	1.8	25.0	3.4
≥43	31.1	1.4	14.0	2.6
Education*				
<High school	5.2	1.2	11.0	2.5
High school graduate	34.4	2.1	34.4	3.9
Some college	41.7	2.2	48.4	4.2
College graduate	8.1	1.2	2.9	1.2
Graduate or professional school	10.7	1.3	3.4	1.4
Current work status**				
Working	94.5	0.9	69.4	4.2
Unemployed	2.5	0.6	13.3	2.8
Retired	1.7	0.5	0.2	0.2
Other	1.4	0.4	17.1	3.8
Current marital status				
Married**	77.8	1.9	62.7	3.9
Living as married*	5.2	0.9	14.0	2.6
Separated*	1.1	0.4	8.5	2.1
Divorced*	11.1	1.5	5.2	1.7
Widowed	0.1	0.1	0.0	0.0
Never married	4.8	1.0	9.6	2.5
No. of Times divorced[a]**				
0	65.1	2.2	30.4	4.1
1	26.8	2.0	47.3	4.3
≥2	8.1	1.4	22.4	3.7

Note. PTSD = posttraumatic stress disorder.
[a] Sample size for those who were ever married: without PTSD = 815; with PTSD = 288.
* $p < .01$. ** $p < .001$.

$p < .001$. Men with PTSD also reported higher levels of parenting problems (Parental Problem Index score without PTSD, $M = 1.93$; with PTSD, $M = 2.61$), $\chi^2(1, N = 1{,}078) = 76.06$, $p < .001$, and significantly poorer family adjustment, for families with children, $\chi^2(1, N = 785) = 109.7$, $p < .001$; for all couples, $\chi^2(1, N = 967) = 58.39$, $p < .001$. When comparing (a) the proportion of men with PTSD whose reports of problems were sufficient in number to classify them in the highest level on these indices with (b) the proportion of men without PTSD whose reports put them in the highest category, we find that those with PTSD were 6 times more likely to fall into the highest category on the Marital Problems Index, 3 times as likely to fall into the highest category for the Parental Problem Index, and 2½ times more likely to fall into the highest category for Family Adjustment. Among theater veterans with children, over half of those with PTSD described their families as poorest in functioning (i.e., "extreme") on both adaptability and cohesion, over half scored in the highest category on the Parental Problems Index, and almost half scored in the highest category on the Marital Problems Index.

Estimates of the characteristics of the S/P, the family, and the children are found in Tables 3 through 6. Most data in these four tables were taken from the SPI. Other data in these tables (e.g., socioeconomic status of S/P's occupation) were taken from the NSVG interview but only for the S/Ps interviewed in the SPI. Therefore, the sample sizes are the same in Tables 3 through 6.

Background Characteristics of the S/P and the Couple's Relationship

As shown in Table 3, the majority of the S/Ps of male veterans were less than 40 years old, with a mean of 36.51 years for S/Ps of veterans with PTSD and 39.33 years for S/Ps of veterans without PTSD, $\chi^2(1, N = 374) = 5.45$, $p = .020$ for differences in the distributions. This means that S/Ps were, on the average, 2 years younger than their husbands or partners, whether or not the veteran had PTSD. The S/Ps of male veterans without PTSD had significantly higher levels of education ($M = 13.29$ years) than the S/Ps of the male veterans with PTSD ($M = 12.58$), $\chi^2(1, N = 374) = 5.3$, $p = .021$. This is consistent with our earlier finding that male veterans with PTSD themselves tended to be less highly educated than those without the disorder. Because the SPI was only conducted when the veteran was either married or living as though married, all couples in the SPI had to meet one of these two criteria, and most of the couples reported actually being married. For couples in which the male theater veterans had PTSD, however, a significantly larger proportion of S/Ps reported living as though married

Table 2
Distribution of Family Problems as Reported by the Veteran

Measure	Group: Without PTSD (n = 736) %	SE	With PTSD (n = 231) %	SE
Marital Problems Index*				
Low (0.0–1.5)	38.7	2.4	17.7	3.5
Medium-low (1.51–2.0)	32.9	2.3	18.4	4.4
Medium-high (2.01–2.5)	19.7	2.0	15.0	3.5
High (2.51–4.0)	8.7	1.3	48.9	4.7
Parental Problems Index*				
Low (0.00–1.49)	29.1	2.2	7.5	2.1
Medium-low (1.50–1.99)	24.6	2.0	14.9	3.1
Medium-high (2.00–2.49)	29.0	2.2	22.9	3.9
High (2.50–5.00)	17.3	1.8	54.7	4.3
Family adjustment (all couples)*				
Balanced	46.8	2.4	15.2	3.5
Midrange	31.4	2.2	35.6	5.0
Extreme	21.9	2.0	49.2	4.9
Family adjustment (couples with children)*				
Balanced	50.9	2.7	10.6	3.4
Midrange	29.9	2.4	34.6	5.8
Extreme	19.3	2.2	54.8	5.5

Note. PTSD = posttraumatic stress disorder.
* $p < .001$.

Table 3
Distribution of the Background Characteristics of the Spouse or Partner (S/P) and the Couple

Characteristic	Group: Without PTSD (n = 252) %	SE	With PTSD (n = 122) %	SE
Age of S/P (years)*				
≤40	66.9	3.3	81.2	4.5
41–49	24.7	3.1	13.0	3.8
≥50	8.3	2.5	5.8	2.7
Education of S/P*				
<High school	5.6	1.7	20.1	6.6
High school graduate	67.4	3.8	61.5	6.6
College degree	27.0	3.7	18.5	4.6
Marital status of couple*				
Married	96.6	1.4	87.6	3.6
Living as married	3.4	1.4	12.4	3.6
No. of times divorced[a]				
0	76.1	3.7	64.9	6.0
1	21.5	3.6	26.0	5.5
2+	2.4	1.1	9.0	3.4
Length of relationship (years)**				
1–6	19.6	3.4	45.5	6.3
7–15	23.5	3.5	39.2	6.7
16–19	28.3	3.6	9.9	3.3
20+	28.6	3.5	5.3	2.5
% of years S/P worked (during relationship)				
0–25	25.2	3.7	29.4	6.7
26–50	23.1	3.5	22.0	5.2
51–75	20.0	3.8	19.0	4.5
76–100	31.8	3.9	29.6	5.7
Current work status of S/P				
Working/with a job	79.3	3.2	74.6	6.7
Not working	20.7	3.2	25.4	6.7
SES of S/P's occupation				
10.0–29.9	43.2	4.3	45.0	6.6
30.0–49.9	31.5	4.0	45.0	6.3
50.0–69.9	14.2	3.0	6.3	2.8
70.0–89.9	11.1	2.6	3.7	2.4

Note. PTSD = posttraumatic stress disorder; SES = socioeconomic status.
[a] Sample includes only S/Ps who were ever married.
* $p < .05$. ** $p < .001$.

(12.4%) than did the S/Ps of male theater veterans without PTSD (3.4%), $\chi^2(1, N = 374) = 5.31$, $p = .021$.

The most striking relationship found among the marital or relationship variables was that between PTSD and the length of the marriage or live-in relationship. Veterans without PTSD tended to have been married to, or living with, their S/Ps significantly longer (M = 15.79 years) than their counterparts with PTSD (M = 9.66 years), $\chi^2(1, N = 373) = 36.5$, $p < .001$, or an average difference of 6 years. There were no significant differences between veterans with and without PTSD in the proportion of time that the S/P was employed while living with the veteran (without PTSD, $M = .59$; with PTSD, $M = .64$), $\chi^2(1, n = 366) = .25$, $p = .617$, in the proportion of S/Ps currently working (without PTSD, 79.3%; with PTSD, 74.6%), $\chi^2(1, N = 374) = .41$, $p = .523$, or in the socioeconomic status of the S/P's occupation (for S/Ps of veterans without PTSD, M = 37.96; for S/Ps of veterans with PTSD, 31.49), $\chi^2(1, N = 351) = 1.75$, $p = .186$.

S/P's Assessment of Marital and Relationship Problems

As reported by the S/P (see Table 4), male theater veterans with PTSD were currently functioning substantially less well (life functioning score, M = 3.49) than male theater veterans without PTSD (M = 4.03), $\chi^2(1, N = 371) = 18.7$, $p < .001$. Like their husbands or partners, S/Ps of those with PTSD reported more marital problems (Marital Problem Index score, M = 2.37) than those without PTSD (M = 1.96), $\chi^2(1, N = 373) = 14.0$, $p < .001$. According to the S/P, there was some tendency for families of theater veterans without PTSD (both those with children and all couples) to be better adjusted than those with PTSD, $\chi^2(1, N = 260) = 2.9$, $p = .088$ for families with children; $\chi^2(1, N = 334) = 1.7$, $p = .192$ for all families, although only differences in family adjustment reported by the veterans were statistically significant.

Reports of family violence, both violence by the veteran and violence by the S/P, were significantly more prevalent among those families in which the veteran had PTSD. The mean score on the Standard Family Violence Index was .54 for veterans without PTSD and 2.08 for veterans with PTSD, $\chi^2(1, N = 372) = 9.3$, $p = .002$. The mean score for the S/Ps of veterans without PTSD was .51, similar to that for the veterans without PTSD, but the mean score was 1.57 for S/Ps of veterans with PTSD, lower than that for the veterans with PTSD, $\chi^2(1, N = 373) = 19.18$, $p < .001$. The mean number of violent acts committed in the last year (including threats) by male theater veterans with PTSD was 4.86, compared with only 1.32 among those male theater veterans without PTSD, $\chi^2(1, N = 372) = 8.13$, $p = .004$. The mean number of violent acts for S/Ps of those without PTSD was .96, $\chi^2(1, N = 373) = 18.35$, $p < .001$. The mean number of violent acts committed by the S/Ps of male theater veterans with PTSD in the last year was 3.03, again lower than the mean for their veteran S/Ps. This relatively high mean for male veterans with PTSD appears to reflect, in part, the fact that 9% of the veterans with PTSD committed 13 or more acts of family violence in the last year. Surprisingly, however, on both indices, a higher proportion of S/Ps of male veterans with PTSD committed at least some acts of family violence during the past year than did the veterans with PTSD.

S/P's Assessment of Her Own Problems

As shown in Table 5, the S/Ps of theater veterans with PTSD were significantly more likely to report lower levels of happiness and life satisfaction than S/Ps of theater veterans without PTSD, $\chi^2(1, N = 372) = 19.55$, $p < .001$; they also had substantially higher demoralization scores (M = 1.50) than S/Ps of theater veterans without PTSD (M = .97), $\chi^2(1, N = 374) = 28.86$, $p < .001$. Forty-three percent of S/Ps of male theater veterans with PTSD scored high on demoralization, compared with only 15% of the S/Ps of those without PTSD. There was no significant difference in levels of social isolation between S/Ps of male theater veterans with PTSD (M = .21) and those without (M = .23), $\chi^2(1, N = 374) = .04$, $p = .852$. The S/Ps of

Table 4
Distribution of Family Problems as Reported by the Spouse or Partner (S/P)

Measure	Group: Without PTSD (n = 252) %	SE	Group: With PTSD (n = 122) %	SE
Veteran's level of life functioning**				
Poorly/all right	17.6	3.0	52.9	6.6
Very well	59.5	4.1	34.9	6.1
Exceptionally well	22.9	3.6	12.2	3.8
Marital Problems Index**				
Low (0.00–1.50)	35.4	4.1	14.7	4.1
Medium-low (1.51–2.00)	28.6	3.8	24.1	5.4
Medium-high (2.01–2.50)	17.2	3.1	21.2	5.0
High (2.51–5.00)	18.8	3.5	40.1	6.6
Family adjustment (all couples)				
Balanced	42.3	4.5	32.6	6.2
Midrange	28.7	4.0	29.2	6.3
Extreme	29.0	4.0	38.2	7.3
Family adjustment (couples with children)				
Balanced	50.9	5.4	34.8	7.3
Midrange	28.7	4.8	31.8	7.4
Extreme	21.2	4.2	33.4	8.7
Standard Family Violence Index for veteran*				
Low (0)	86.5	2.9	67.0	5.6
Medium-low (1–2)	7.0	2.2	8.9	3.2
Medium-high (3–5)	3.3	1.7	12.0	3.9
High (6+)	3.2	1.4	12.1	3.6
Standard Family Violence Index for S/P**				
Low (0)	85.0	2.9	51.2	6.3
Medium-low (1–2)	7.2	2.1	26.3	5.4
Medium-high (3–5)	4.6	1.8	22.5	5.2
High (6+)	3.2	1.4	0.0	0.0
Alternate Family Violence Index for veteran*				
Low (0)	85.0	3.0	66.0	5.6
Medium-low (1–2)	4.3	1.5	6.8	2.5
Medium (3–5)	4.2	1.7	10.6	3.5
Medium-high (6–12)	3.4	1.7	7.3	3.2
High (13+)	3.1	1.4	9.3	3.1
Alternate Family Violence Index for S/P**				
Low (0)	81.2	3.3	46.3	6.3
Medium-low (1–2)	9.9	2.5	18.8	4.6
Medium (3–5)	4.6	1.8	20.6	5.3
Medium-high (6–12)	1.6	1.0	14.3	3.9
High (13+)	2.7	1.3	0.0	0.0

Note. PTSD = posttraumatic stress disorder.
* $p < .01$. ** $p < .001$.

veterans with PTSD also did not have a significantly higher number of alcohol problems (M = 1.95) than S/Ps of those without PTSD (M = 1.39), $\chi^2(1, N = 371) < .01$, $p = .956$. The amount of drug use reported among S/Ps, however, was so small as to preclude statistical tests of differences. Significantly more of the S/Ps of veterans with PTSD reported having felt as though they were going to have a nervous breakdown at some point in their lives than did S/Ps of veterans without PTSD. In fact, 55% of the S/Ps of male theater veterans with PTSD reported feeling this way, compared with 30% of the S/Ps of male theater veterans without the disorder, $\chi^2(1, N = 374) = 10.94$, $p = .001$.

S/P's Assessment of Problems of the Children

Based on the S/Ps' reports (see Table 6), the most disturbed child of male theater veterans with PTSD had significantly more behavioral problems overall (M = 60.1) than did the most disturbed child of male theater veterans without PTSD (M = 55.23), $\chi^2(1, N = 260) = 4.15$, $p = .042$. This inference is drawn

Table 5
Distribution of Spouse or Partner's (S/P's) Problems (Self-Reported)

Measure	Group			
	Without PTSD (n = 252)		With PTSD (n = 122)	
	%	*SE*	%	*SE*
Subjective well-being of S/P**				
Very unhappy/unsatisfied (1)	1.9	1.0	11.2	5.3
Unhappy/unsatisfied (2)	6.5	2.2	8.9	3.4
Happy/satisfied (3)	40.4	4.2	64.7	6.0
Very happy/satisfied (4)	29.5	3.8	5.7	2.7
PERI Demoralization Score of S/P**				
Low (0–.49)	18.2	3.1	3.0	2.2
Medium-low (.50–.99)	43.2	4.2	21.2	4.6
Medium-high (1.00–1.49)	23.2	3.7	33.1	5.8
High (1.50+)	15.4	3.0	42.7	6.5
Social isolation score for S/P				
Low (0)	80.7	3.3	83.1	5.4
Medium (1)	16.8	3.2	9.1	3.1
High (2–4)	2.5	1.1	7.8	5.6
Alcohol problems of S/P				
Nonalcoholic	93.3	2.1	93.4	2.5
Probable alcoholic	6.7	2.1	6.6	2.5
Drug problems of S/P				
Never used drugs	97.5	1.3	100.0	0.0
Used drugs	2.5	1.3	0.0	0.0
S/P ever felt she would have a nervous breakdown*				
No, never	70.3	3.9	45.2	6.5
Yes, sometimes	29.7	3.9	54.8	6.5

Note. PERI = Psychiatric Epidemiology Research Interview; PTSD = posttraumatic stress disorder.
* $p < .01$. ** $p < .001$.

from the four-level CBCL variable for the child with the most behavioral problems. When we examined the total problem score for the most troubled child by using a single degree of freedom test (as described in the Statistical Tests section), we found that the crucial and significant difference was in the proportion of male theater veterans whose most disturbed child had few or no behavioral problems. For more than one quarter of male theater veterans without PTSD (27.8%), the most disturbed child had few or no problems. For theater veterans with PTSD the proportion was 11.8%, $\chi^2(1, N = 260) = 7.09$, $p = .008$. This interpretation is supported by the fact that the two-level CBCL variable (normal vs. clinical) for the child with the most problems was not significantly different across the PTSD and no-PTSD groups, $\chi^2(1, N = 260) = 2.55$, $p = .110$.

When examining the mean behavioral problem scores across all children, we found that the major difference was in the proportion of veterans whose children's average score was in the clinical range. When comparing the PTSD and no-PTSD groups on the mean score measure for the two-level variable, we found that the children of those with PTSD were substantially more likely to have a problem score in the clinical range than the children of those without PTSD ($M = 52.81$), $\chi^2(1, N = 260) = 4.48$, $p = .034$. The average score across children for those with PTSD was in the clinical range for 35% of those with PTSD, compared with only 14% for those without PTSD. The overall test for finer distinctions (i.e., the four-level variable) was not significant, $\chi^2(1, N = 260) = 3.08$, $p = .079$. When we conducted the single degree of freedom test on the four-level variable, we found that the major difference was in the "clinical range, mild" level, $\chi^2(1, N = 260) = 3.93$, $p = .048$, indicating that the biggest differences between the groups were that the average scores of the children of those with PTSD were more likely to be in the low clinical range than the scores of children of veterans without PTSD.

Discussion

Data from both the veteran and his S/P indicate strongly that there are many severe problems in the families of male Vietnam veterans with PTSD. These findings are consistent with findings from previous clinical studies that have examined the marital and family problems of male veterans with PTSD. Veterans with PTSD are much more likely to report marital, parental, and family adjustment problems than veterans without PTSD, and these reports are supported by their S/Ps; about 60% of both veterans with PTSD and their spouses report medium-high to high levels of marital problems. There is more violence in the families of veterans with PTSD than in the families of veterans without PTSD. The majority of the S/Ps report high levels of nonspecific distress, and about half report having felt on the verge of a nervous breakdown. The children of the veterans with PTSD are more likely to have behavioral problems than children of veterans without PTSD, and more than one

Table 6
Distribution of Children's Behavior Problems (Reported by S/P)

Measure	Group			
	Without PTSD (n = 252)		With PTSD (n = 122)	
	%	*SE*	%	*SE*
CBCL: child with most problems (4 Levels)*				
Normal, no/few problems	27.8	4.6	11.8	3.8
Normal, some problems	48.5	5.4	51.3	8.4
Clinical range, mild	11.6	3.2	16.4	5.5
Clinical range, moderate/severe	12.0	3.5	20.5	8.4
CBCL: child with most problems (2 Levels)				
Normal range	76.6	4.4	60.7	8.7
Clinical range	23.4	4.4	39.3	8.7
Average CBCL (4 Levels)				
Normal, no/few problems	35.0	5.0	22.6	6.3
Normal, some problems	50.1	5.4	46.4	8.3
Clinical range, mild*	6.4	2.2	17.7	5.2
Clinical range, moderate/severe	8.4	3.1	13.3	7.8
Average CBCL (2 Levels)*				
Normal range	85.8	3.6	65.2	8.8
Clinical range	14.2	3.6	34.8	8.8

Note. CBCL = Child Behavior Checklist; PTSD = posttraumatic stress disorder; S/P = spouse or partner.
* $p < .05$.

third of male veterans with PTSD have a child with problems in the clinically significant range.

Nonetheless, the findings do not suggest that all of the families of veterans with PTSD are extremely chaotic, desperately unhappy, and severely disturbed. Although there is increased violence reported in the families of the male veteran with PTSD, about half of these veterans and their S/Ps report no acts of violence by the veteran in the past year. Even if respondents are somewhat underreporting these behaviors, it would suggest that there is little or no violence in at least a sizeable minority of families in which the veteran has PTSD. Although the majority of S/Ps report relatively high levels of demoralization, a majority also report being at least somewhat happy and satisfied with their lives. This combination of findings would suggest that although the majority of S/Ps feel a high level of stress, many are at least minimally able to cope with their personal and family problems most of the time. Furthermore, although the children of veterans with PTSD are more likely to have behavioral problems, in 62% of the families of veterans with PTSD, the most disturbed child in the home was still in the normal range on the CBCL. We conclude, therefore, that the pervasiveness and severity of problems vary substantially among the families of Vietnam veterans with PTSD.

One could ask to what extent might the relationship between the veteran's PTSD and family problems be spurious? That is, might it not be the case that combat veterans with preexisting childhood behavioral and psychological problems, those from dysfunctional families, or both, would be more likely to develop combat-related PTSD and to have problems as a spouse and parent? Because of the retrospective design, it cannot provide a definitive answer to this question. However, we have examined the relationship between a broad range of background variables and PTSD, including such variables as number of childhood behavior problems; psychiatric disorders of veterans prior to age 18; childhood residential instability; early childhood disruption of family; quality of the relationship with mother and father while growing up; frequency of parental affection, parental violence, and abuse; and criminal, psychiatric, drug, and drinking problems of family members (Schlenger et al., 1991). Although these analyses found many of these variables to be related to PTSD, their contribution to the total variance was relatively small. Exposure to combat trauma greatly overshadowed the effect of any predispositional variable. These data suggest that, although background variables do have some effect on the development of family problems such as those presented in this article, PTSD is more strongly related to these outcomes.

One important finding of this study is that the elevated levels of violence found in the homes of veterans with PTSD represent not only violence exhibited by the veteran but also violence exhibited by the S/P (as self-reported). This is consistent with Straus's previous work (Straus & Gelles, 1990) using the Conflict Tactics Scale in other populations. He found that in homes in which the husband exhibits high levels of violent behavior, the spouse also tends to exhibit higher-than-average levels of violence. Straus suggests three hypotheses to explain this finding:

> (1) Women who are assaulted by their partners may incorporate violence in their own behavioral repertoire. (2) Some women may follow the norm of reciprocating violence . . . (3) The use of vio-

> lence in one sphere, for example, child care, may carry over to other spheres, specifically, interaction with one's mate. (p. 162)

Therefore, increased levels of violent behavior on the part of the wife would not necessarily imply a selection bias among veterans with PTSD for wives with a tendency toward violence.

This issue raises an important question about our findings overall: What is the role of the spouse or partner in the etiology of problems in the families of the veteran with PTSD? Some research suggests that assortative mating tends to occur among individuals with psychiatric disorders, so that individuals with psychological problems often marry other individuals with psychological problems (Merikangas, 1982; Merikangas, Prusoff, & Weissman, 1988). Like most retrospective epidemiologic studies, we do not have data to assess the level and types of psychopathology the S/P may have brought to the relationship. In many ways the S/Ps of those with PTSD do resemble the S/Ps of those without PTSD. About 75% to 80% of S/Ps from both groups were currently working, and the majority had worked for most of their relationship with the veteran. The S/Ps had about 13 years of education and, overall, the prestige of the S/P's occupation did not differ significantly between the PTSD and no-PTSD groups. As a group, the S/Ps of those with PTSD did not appear to have more alcohol or drug problems or to be more socially isolated than the S/Ps of those without PTSD, and most individuals in both comparison groups had never been divorced.

It appears, then, that spouses of veterans with PTSD do not differ greatly from spouses of veterans without PTSD on a variety of sociodemographic and other background characteristics. This finding supports the argument that in many cases the veteran's PTSD is probably a major source of the problems in the family. Such an argument would be congruent with other research and clinical observations that suggest that many wives of veterans with PTSD function reasonably well and often assume the major financial, parental, and domestic responsibilities within the relationship (Verbosky & Ryan, 1988; Williams, 1980). Furthermore, although some S/Ps whose relationships began after the veteran's military service may have known in the early stages of the relationship that the veteran had problems (and, in fact, might have entered the relationship in a rescuer role), the S/P may often have been unaware of the pervasiveness of the veteran's problems and the potentially severe implications for their relationship.

What are the implications? We believe that the level of problems found in these families suggests that it may be important to develop a comprehensive treatment plan for veterans with PTSD that involves interventions to reduce stress levels in the family by targeting interactional problems in the family and psychological and behavioral problems of family members (cf. Fairbank, Schlenger, Caddell, & Woods, in press). A comprehensive treatment plan might include (a) pharmacologic, psychological, or behavioral interventions aimed at reducing those symptoms of the veteran and (b) skills training for the veteran in problem solving, anger management, assertiveness, and stress reduction. The plan might also fruitfully use (c) interventions that involve other family members, such as couples or family counseling, individual counseling for other family members, or skills training to teach family members ways of more effectively coping with the veteran's symptoms such as temper outbursts and withdrawal from intimacy.

One further implication of our findings of multiple severe problems in these families 15 years after the Vietnam war is that early treatment for those suffering the effects of a traumatic event may be important to prevent symptoms of PTSD and co-occuring disorders from wreaking havoc on marital and family relationships of these individuals.

References

Achenbach, T. M. (1978). The child behavior profile: I. Boys aged 6–11. *Journal of Consulting and Clinical Psychology, 46,* 478–488.

Achenbach, T. M., & Edelbrock, C. (1983). *Manual for the Child Behavior Checklist and revised child behavior profile.* Burlington, VT: University of Vermont.

Bergman, M. S., & Jucovy, M. C. (Eds.). (1982). *Generation of the Holocaust.* New York: Basic Books.

Campbell, A., Converse, P. E., & Rodgers, W. L. (1976). *The quality of American life.* Beverly Hills, CA: Sage.

Card, J. (1983). *Lives after Vietnam: The personal impact of military service.* Lexington, MA: Lexington Books.

Carroll, E. M., Rueger, D. B., Foy, D. W., & Donahoe, C. P., Jr. (1985). Vietnam combat veterans with posttraumatic stress disorder: Analysis of marital and cohabitating adjustment. *Journal of Abnormal Psychology, 94,* 329–337.

Cohen, S., Mermelstein, R., Kamarck, T., & Hoberman, H. (1985). Measuring the functional components of social support. In I. G. Sarason & B. Sarason (Eds.), *Social support: Theory, research and applications* (pp. 73–94). Dordrecht, The Netherlands: Martinus Nijhoff.

Danieli, Y. (1985). The treatment and prevention of long-term effects and intergenerational transmission of victimization: A lesson from Holocaust survivors and their children. In C. R. Figley (Ed.), *Trauma and its wake* (pp. 295–313). New York: Brunner/Mazel.

Davidson, J., Smith, R., & Kudler, H. (1989). Familial psychiatric illness in chronic posttraumatic stress disorder. *Comprehensive Psychiatry, 30,* 339–345.

Dohrenwend, B. P. (1982). *Psychiatric Epidemiology Research Interview (PERI).* New York: Columbia University, Social Psychiatry Research Unit.

Dohrenwend, B. P., Levav, I., & Shrout, P. (1986). Screening scales from the Psychiatric Epidemiology Research Interview. In M. M. Weissman, J. K. Meyers, & C. E. Ross (Eds.), *Community surveys of psychiatric disorder.* New Brunswick, NJ: Rutgers University Press.

Donald, C. A., & Ware, J. E., Jr. (1984). The measurement of social support. *Research in Community and Mental Health, 4,* 325–370.

Endicott, J., Spitzer, R., Fleiss, J., & Cohen, J. (1976). The Global Assessment Scale: A procedure for measuring overall severity of psychiatric disturbance. *Archives of General Psychiatry, 33,* 766–771.

Fairbank, J. A., Schlenger, W. E., Caddell, J. M., & Woods, M. G. (in press). Post-traumatic stress disorder. In P. B. Sutker & H. E. Adams (Eds.), *Comprehensive handbook of psychopathology.* New York: Plenum Press.

Frank, J. D. (1973). *Persuasion and healing.* Baltimore: Johns Hopkins University Press.

Gurin, G., Veroff, J., & Feld, S. C. (1960). *Americans view their mental health.* New York: Basic Books.

Horowitz, M. J., Wilner, N., & Alvarez, W. (1979). Impact of event scale: A measure of subjective stress. *Psychometric Medicine, 41,* 209–218.

Keane, T. M., Caddell, J. M., & Taylor, K. L. (1988). Mississippi scale for combat-related posttraumatic stress disorder: Three studies in reliability and validity. *Journal of Consulting and Clinical Psychology, 56,* 85–90.

Keane, T. M., Malloy, P. F., & Fairbank, J. A. (1984). Empirical development of an MMPI subscale for the assessment of combat-related posttraumatic stress disorder. *Journal of Consulting and Clinical Psychology, 52,* 888–891.

Koch, G. G., & Edwards, S. E. (1988). Clinical efficacy trials with categorical data. In K. E. Peace (Ed.), *Biopharmaceutical statistics for drug development* (pp. 403–457). New York: Dekker.

Kulka, R. A., Schlenger, W. E., Fairbank, J. A., Hough, R. L., Jordan, B. K., Marmar, C. R., & Weiss, D. S. (1990a). *The National Vietnam Veterans Readjustment Study: Tables of findings and technical appendices.* New York: Brunner/Mazel.

Kulka, R. A., Schlenger, W. E., Fairbank, J. A., Hough, R. L., Jordan, B. K., Marmar, C. R., & Weiss, D. S. (1990b). *Trauma and the Vietnam War generation.* New York: Brunner/Mazel.

Kulka, R. A., Schlenger, W. E., Fairbank, J. A., Jordan, B. K., Hough, R. L., Marmar, C. R., & Weiss, D. S. (1991). Assessment of PTSD in the community: Prospects and pitfalls from recent studies of Vietnam veterans. *Psychological Assessment, 4,* 547–560.

Matsakis, A. (1988). *Vietnam wives.* Kensington, MD: Woodbine House.

Merikangas, K. R. (1982). Assortative mating for psychiatric disorders and psychological traits. *Archives of General Psychiatry, 39,* 1173–1180.

Merikangas, K. R., Prusoff, B. A., & Weissman, M. M. (1988). Parental concordance for affective disorders: Psychopathology in offspring. *Journal of Affective Disorders, 15,* 279–290.

Nezu, A. M., & Carnevale, G. J. (1987). Interpersonal problem solving and coping reactions of Vietnam veterans with posttraumatic stress disorder. *Journal of Abnormal Psychology, 96,* 155–157.

Olson, D. H., Bell, R., & Portner, J. (1978). *Family adaptability and cohesion evaluation scales.* Unpublished manuscript, University of Minnesota, Family Social Science Department, Minneapolis.

Olson, D. H., McCubbin, H. I., Barnes, H. L., Larsen, A. S., Muxen, M. J., & Wilson, M. A. (1983). *Families: What makes them work.* Newbury Park, CA: Sage.

Pokorny, A. D., Miller, B. A., & Kaplan, H. (1972). The brief MAST: A shortened version of the Michigan Alcoholism Screening Test. *American Journal of Psychiatry, 129,* 342–345.

Rakoff, V. A. (1966). A long-term effect of the concentration camp experience. *Viewpoints, 1,* 17–22.

Roberts, W. R., Penk, W. E., Gearing, M. L., Robinowitz, R., Dolan, M. P., & Patterson, E. T. (1982). Interpersonal problems of Vietnam combat veterans with symptoms of posttraumatic stress disorder. *Journal of Abnormal Psychology, 9,* 444–450.

Rosenheck, R., & Nathan, P. (1985). Secondary traumatization in children of Vietnam veterans. *Hospital and Community Psychiatry, 36,* 538–539.

Schlenger, W. E., Kulka, R. A., Fairbank, J. A., Hough, R. L., Jordan, B. K., Marmar, C. R., & Weiss, D. S. (1992). The prevalence of posttraumatic stress disorder in the Vietnam generation: A multimethod, multisource assessment of psychiatric disorder. *Journal of Traumatic Stress, 5,* 331–363.

Selzer, M. L. (1971). The Michigan alcoholism screening test: The quest for a new diagnostic instrument. *American Journal of Psychiatry, 127,* 1653–1658.

Solomon, Z., Mikulincer, M., Fried, B., & Wosner, Y. (1987). Family characteristics and posttraumatic stress disorder: A follow-up of Israeli combat stress reaction casualties. *Family Process, 26,* 383–394.

Spanier, G. B. (1976). Measuring dyadic adjustment: New scales for assessing the quality of marriage and similar dyads. *Journal of Marriage and the Family, 38,* 115–128.

Spitzer, R. L., Williams, J. B. W., & Gibbon, M. (1987). *Structured clinical interview for DSM-III—Non-patient version (SCID-NP-V 2-1-87).* New York: Biometrics Research Department, New York State Psychiatric Institute.

Stevens, G., & Cho, J. H. (1985). Socioeconomic indexes and the new 1980 Census Occupational Classification Scheme. *Social Sciences Research, 14,* 142–168.

Straus, M. (1979). Measuring intrafamily conflict and violence: The Conflict Tactics Scales. *Journal of Marriage and the Family, 41,* 75–88.

Straus, M. A., & Gelles, R. J. (1990). *Physical violence in American families: Risk factors and adaptations to violence in 8,145 families.* New Brunswick, NJ: Transaction Publishers.

Swan, R. W., & Lavitt, M. (1988). Patterns of adjustment to violence in families of the mentally ill. *Journal of Interpersonal Violence, 3,* 42–54.

Verbosky, S. J., & Ryan, D. A. (1988). Female partners of Vietnam veterans: Stress by proximity. *Issues in Mental Health Nursing, 9,* 95–104.

Veroff, J., Douvan, E., & Kulka, R. A. (1981). *The inner American: A self-portrait from 1957 to 1976.* New York: Basic Books.

Vinokur, A., Caplan, R. D., & Williams, C. C. (1987). Effects of recent and past stresses on mental health: Coping with unemployment among Vietnam veterans and nonveterans. *Journal of Applied Social Psychology, 17,* 710–730.

Wanderman, E. (1979). *Separation problems, depressive experiences and conception of parents in children of concentration camp survivors.* Unpublished doctoral dissertation, New York University.

Watt, N., Anthony, E. J., Wynne, L., & Rolf, J. E. (Eds.). (1984). *Children at risk for schizophrenia.* Cambridge, England: Cambridge University Press.

Weiss, D., Horowitz, M., & Wilner, N. (1984). The stress response rating scale: A clinican's measure for rating the response to serious life events. *British Journal of Clinical Psychology, 23,* 202–215.

Williams, C. (1980). The veteran system with a focus on women partners: Theoretical considerations, problems and treatment strategies. In T. Williams (Ed.), *Post-traumatic stress disorders of the Vietnam veteran* (pp. 73–122). Cincinnati, OH: Disabled American Veterans.

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