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Partial PTSD *versus* full PTSD: an empirical examination of associated impairment

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ABSTRACT

Background. Partial PTSD, employed initially in relation to Vietnam veterans, has been recently extended to civilian victims of trauma. We examined the extent to which partial PTSD is distinguishable from full DSM-PTSD with respect to level of impairment.

Method. A representative sample of 2181 persons was interviewed by telephone to record lifetime traumatic events and to assess DSM-IV PTSD criteria. Partial PTSD was defined as $\geqslant 1$ symptom in each of three symptom groups (criteria B, C and D) and duration of $\geqslant 1$ month. Impairment in persons with PTSD and partial PTSD was measured by number of work-related and personal disability days during the 30-day period when the respondent was most upset by the trauma.

Results. Compared to exposed persons with neither PTSD nor partial PTSD, increment in work-loss days associated with PTSD was 11·4 (S.E. = 0·6) days and with partial PTSD, 3·3 (S.E. = 0·4) days (adjusted for sex, education and employment). Similar disparities were found across other impairment indicators. Persons who fell short of PTSD criteria by one symptom of avoidance and numbing reported an increment of 5·0 (S.E. = 0·7) work-loss days, 6·0 fewer than full PTSD. PTSD was associated with excess impairment, controlling for number of symptoms. A significantly lower proportion of persons with partial PTSD than full PTSD experienced symptoms for more than 2 years. A lower proportion of persons with partial PTSD than full PTSD had an etiologic event of high magnitude.

Conclusions. PTSD identifies the most severe trauma victims, who are markedly distinguishable from victims with subthreshold PTSD.

INTRODUCTION

The category of subthreshold PTSD, employed initially in relation to Vietnam veterans (Kulka *et al*. 1990; Weiss *et al*. 1992; Blank, 1993; Schnurr *et al*. 1993), has been recently extended to civilian victims of trauma (Davidson & Foa, 1991; Carlier & Gersons, 1995; Blanchard *et al*. 1996; Stein *et al*. 1997, 2002; Marshall *et al*. 2001; McQuaid *et al*. 2001; Galea *et al*. 2003). PTSD syndrome, as defined in the DSM-IV, requires $\geqslant 1$ of 5 symptoms of re-experiencing the trauma (B criterion), $\geqslant 3$ of 7 symptoms of avoidance and numbing (C criterion), $\geqslant 2$ of 5 hyperarousal symptoms (D criterion), for a total ranging from 6 to 17 symptoms. Duration of at least 1 month (E criterion) and clinical significance (F criterion) are also required. There is no single definition of partial PTSD. Several definitions have been used, ranging from an expert clinical judgment (Weiss *et al*. 1992) to an explicit definition that requires strict adherence to specified criteria (Blanchard *et al*. 1996; Stein *et al*. 1997, 2002). The expansion of PTSD to include subsyndromal or partial PTSD has come under criticism, which centers on the concern

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that liberalizing the diagnostic criteria threatens to dissolve the border between disease and normative stress reactions (McNally, 2003; see also Wakefield & Spitzer, 2002, for a brief discussion of the general topic). There is little empirical evidence from epidemiological community studies to inform the evaluation of these conflicting perspectives.

Two community studies compared PTSD and partial PTSD on functional impairment (Stein *et al.* 1997, 2002). The definition of partial PTSD in these studies requires at least one symptom in each of the PTSD criterion symptom groups, re-experiencing the trauma, avoidance and numbing, and increased arousal. It also requires symptom duration of at least 1 month (as in the DSM). In the first study, persons with current partial PTSD reported significantly *less* impairment in work or school functioning (but not in family and social activities), compared to current full PTSD. Persons with partial, as with full PTSD, showed greater impairment than exposed persons with neither (Stein *et al.* 1997). In a subsequent report from that study, the two groups (i.e. PTSD and partial PTSD) were combined into a single category (Stein *et al.* 2000). In the second study, *lifetime* partial PTSD did not differ significantly from *lifetime* full PTSD in average number of disability days during the 4-week period that preceded the interview. Analysis proceeded on the combined group (Stein *et al.* 2002).

The interpretation of these results should take into account important limitations. In the first study (Stein *et al.* 1997), the group with *current* partial PTSD included persons who had previously met full PTSD criteria and were in partial remission together with persons who had never met full PTSD criteria. Persons with prior PTSD, who were in partial remission, might have been more impaired than persons who have never met full PTSD criteria. Greater impairment in persons with a history of full PTSD, who were in partial remission, would push upward the mean level of impairment in the partial PTSD group as a whole. This effect would tend to obscure differences between full and partial PTSD. Additionally, because of the small size of the two groups, averages of impairment level are unstable and could have fallen within a wide range of possible values. In the second study (Stein *et al.* 2002), impairment was measured by number of disability days during the 4 weeks that preceded the interview, whereas full PTSD and partial PTSD were ascertained for lifetime. In addition, the inquiry focused on disability days due to an unspecified mental illness, which might have further weakened the chances of detecting differences in impairment due specifically to PTSD *versus* partial PTSD.

Marshall and associates (2001), in a survey conducted on community volunteers, reported a near gradient relationship between number of PTSD symptoms (from 1 to 4) and impairment 'due to anxiety symptoms'. Persons reporting four symptoms showed the greatest impairment. A critical limitation is the nature of the sample, which comprised visitors to clinics that invited the general public for a 1-day program of screening and referral to treatment for anxiety disorders. Furthermore, the study did not compare DSM-PTSD with subsyndromal categories.

In this report we provide empirical evidence on partial *versus* full PTSD, which addresses some of the limitations in previous studies. Data come from the 1996 Detroit Area Survey of Trauma, which is a representative sample of the Detroit, Michigan, primary metropolitan statistical area (Breslau *et al.* 1998*a*). We apply the definition of partial PTSD used by Stein and associates (1997, 2002). (A definition proposed by Blanchard *et al.* 1996, overlaps with this definition to a large extent.) Another definition of partial PTSD, which allows for one less symptom from the C criterion, is also examined (Kilpatrick & Resnick, 1993). The DSM-PTSD is the official category used in research, clinical and legal practice, although debate about its validity as a distinct disorder has continued (e.g. Ruscio *et al.* 2002). Our goal is not to evaluate the validity of the DSM-PTSD definition but to examine its relationship with partial PTSD, a category used in recent studies in conjunction with or inseparably from PTSD. We address the following questions: (1) To what extent is partial PTSD distinguishable from full PTSD in level of impairment? (2) Does the specific *configuration* of criterion symptoms in the DSM-PTSD make a difference, apart from number of symptoms? (3) Do cases of PTSD differ from cases with partial PTSD on duration of symptoms and on the distribution of etiologic events?

METHOD

Sample and data

The 1996 Detroit Area Survey of Trauma is a representative sample of 2181 persons aged 18–45 years in the Detroit primary metropolitan statistical area, a six-county area that contained 4 226 654 residents at the time of the 1990 census (U.S. Bureau of the Census, 1990). Of these residents, 1 922 173 were aged 18–45 years; the majority (77%) resided in suburban and rural communities and only a minority (23%) resided in the City of Detroit (U.S. Bureau of the Census, 1990). A random-digit dialing method was used to select the sample (Potthoff, 1994; Survey Sampling Inc., 1996) and a computer-assisted telephone interview was used to obtain the data. Screening was completed in 76·2% of households and the cooperation rate in eligible households was 86·8%. The sampling is described in detail elsewhere (Breslau *et al.* 1998*a*; Breslau & Kessler, 2001). The Institutional Review Board of the Henry Ford Health System approved the study, and oral informed consent was elicited and recorded at the start of the interview.

A modified version of the PTSD section of the National Institute of Mental Health – Diagnostic Interview Schedule (NIMH-DIS) Version 4 (Robins *et al.* 1995) and the World Health Organization – Composite International Diagnostic Interview Version 2.1 (WHO, 1997) was used to ascertain PTSD according to the DSM-IV (APA, 1994). A validation study conducted in a stratified random subset of the sample found high agreement between the telephone-administered structured interview and independent clinical reinterviews conducted on the telephone by two clinicians, blind to respondents' initial PTSD diagnosis (Breslau *et al.* 1998*b*). The PTSD section begins with an enumeration of 19 types of traumatic events that operationalize the DSM-IV stressor definition, as explicated in the accompanying text (Breslau & Kessler, 2001). An endorsement of an event type was followed by questions on the number of times an event of that type had occurred and the respondent's age at each time. PTSD criteria and disability level were evaluated with respect to a computer-selected random event from the complete list of events reported by each respondent. Diagnostic criteria for PTSD were evaluated also in connection with an event designated by the respondent as the most upsetting. In cases where respondents reported only one event, or where the randomly selected event was the same as the worst event, that event was the basis of the assessment of PTSD and associated disability. (The methodology of event selection is explained in Breslau *et al.* 1998*a*.) Exposed persons meeting all PTSD criteria as defined in DSM-IV were classified as PTSD, applying computerized algorithms. Partial PTSD was defined as meeting at least one of each of the DSM-IV PTSD symptom groups (B, C and D) and symptom duration of at least 1 month (Stein *et al.* 1997, 2002). Onset of PTSD or partial PTSD was determined by the time the symptoms began, in persons who met the criteria for either category.

To compare PTSD and partial PTSD on disability, we adopted standard questions that are used in measuring the economic and social impact of diseases (e.g. Kessler & Frank, 1997). We focused on the 30-day period when respondents with PTSD or partial PTSD were most upset by the trauma. Data on impairment are used here as *indicators of the severity of the disorder*, in terms of its impact on key social roles.

The four impairment questions were preceded by the statement, 'In answering the next questions, please think of the 30-day period when you were MOST upset by this experience'. The first two questions ask about *work-loss and work-cutback days* [i.e. (1) how many days of those 30 days that the respondents were 'totally unable to work or carry out your normal work-related or daily activities because of your reactions to this experience', and (2) how many days of the remaining 30-day period that they had to 'cutdown on your normal work-related or daily activities because of your reactions to this experience']. The next two questions refer to *impairment days in the respondents' personal/social domain* [i.e. (1) how many days out of that 30-day period the respondents spent 'less time with people in your personal life than otherwise because of your reactions to this experience', and (2) how many days of that 30-day period they had 'tensions, disagreements, or conflicts with people in your personal life because of your reactions to this experience']. Information on work-loss days (i.e. totally unable to work) was considered on its own. In addition, this

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information was used together with number of cut-back days (of the remaining 30-day period after subtracting work-loss days) as an index of the impact of full PTSD and partial PTSD, in terms of number of days the respondents either performed their work or other major activities below their usual level or did not perform them at all.

Statistical analysis

Data on impairment associated with a trauma were available on 1606 respondents who reported one or more PTSD symptom associated with the index event, 82·1% of all the respondents who have ever been exposed to a DSM-IV qualifying traumatic event. We examined the distributions of impairment days for each of the four impairment indicators in persons with (1) DSM-IV PTSD, (2) partial PTSD, and (3) exposed persons with one or more symptom but with neither full nor partial PTSD. We estimated the odds ratios for reporting $\geqslant 1$ impairment days associated with full PTSD and partial PTSD, using persons with neither full nor partial PTSD as reference. A series of multiple regression equations estimated the excess in impairment days associated with full PTSD and with partial PTSD, compared to persons with neither full nor partial PTSD, controlling for sex and for education and employment status at time of assessment. Interactions between sex and partial PTSD or full PTSD were tested, but none were detected at $\alpha = 0{\cdot}10$. A second series of regression equations evaluated whether the specified combination of symptoms that constitutes the diagnostic definition of DSM-IV PTSD adds predictive power over and above the number of PTSD symptoms. This analysis was conducted in persons with $\geqslant 6$ symptoms, which is the minimum sum of symptoms in the DSM-IV definition across the three symptom groups (B, C and D); sex, education and employment status at time of assessment were controlled.

The number of lifetime DSM-IV PTSD cases was 152 and of partial PTSD, 444. Table 1 presents a description of the three groups that are compared in this analysis, in terms of the distributions by sex and by employment and education (at time of assessment), current symptoms, and mean number of years since exposure to the index event.

Table 1. *Description of PTSD, partial PTSD and neither*

	PTSD ($n = 152$)	Partial PTSD ($n = 444$)	Neither ($n = 1010$)
Females (%)	65·8	52·2	47·4
Education (%)			
< High school	8·6	9·5	7·1
High school	41·4	36·0	33·8
Some College	36·8	31·5	32·2
College	13·2	23·0	26·9
Employment (%)			
Employed	69·5	76·2	82·1
Student	6·0	3·0	4·4
Homemaker	8·0	9·1	6·3
Unemployed	4·6	7·0	4·2
Other	12·0	4·8	3·1
Years since trauma, mean (S.D.)	11·2 (8·8)	10·7 (8·8)	10·2 (8·2)
Current symptoms (%)	54·3	41·1	34·7

Partial PTSD is defined as $\geqslant 1$ symptom from each symptom group (B, C and D) and $\geqslant 1$ month duration.

'Neither' includes persons exposed to trauma with $\geqslant 1$ symptom but not meeting criteria for PTSD or partial PTSD.

RESULTS

Impairment days associated with full PTSD and partial PTSD

Average number of impairment days in the 30-day period when the respondents were most upset by the traumatic events varied significantly and widely among the three groups, i.e. full PTSD, partial PTSD and neither, as shown in Table 2. All pairwise between-groups comparisons were significant ($p < 0{\cdot}0001$), indicating that, while the partial PTSD group was significantly more impaired than the group with neither PTSD nor partial PTSD, the full PTSD group exceeded significantly the partial PTSD group on all impairment indicators. The gaps between full PTSD and partial PTSD are wider than between partial PTSD and the category of neither PTSD nor partial PTSD (Table 2).

The estimates in Table 2 represent the *per capita* averages of impairment days, unconditional on whether or not any impairment day was reported. In Table 3 appear the percentages with $\geqslant 1$ impairment day and the conditional averages of the number of impairment days among persons with $\geqslant 1$ impairment day. As shown in Table 3, 83·8% of persons with PTSD reported at least 1 work-loss day (i.e. totally unable to work) in the 30-day period in which they were most upset by the trauma. The

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Table 2. Per capita *impairment days in persons with PTSD, partial PTSD and neither* ($n = 1606$)

Impairment days	PTSD Mean (S.D.)	Partial PTSD Mean (S.D.)	Neither Mean (S.D.)	F (df = 2, 1565)
Work loss	13·80 (11·56)	5·44 (8·68)	1·86 (5·08)	198·32*
Cut down/work loss†	19·07 (11·28)	8·07 (10·35)	2·97 (6·72)	262·68*
Less time with people	16·74 (11·29)	6·41 (9·57)	1·74 (5·44)	279·61*
Tension/disagreements	16·49 (11·51)	6·18 (9·35)	1·69 (4·64)	300·54*

Means and standard deviations (S.D.) of impairment days in the 30-day period when the respondent was most upset by the traumatic experience.

Partial PTSD is defined as ⩾1 symptom from each symptom group (B, C and D) and ⩾1 month duration.

'Neither' includes persons exposed to trauma with ⩾1 symptom but not meeting criteria for PTSD or partial PTSD.

F values from ANOVAS.

* $p < 0{\cdot}0001$. All pairwise comparisons are statistically significant ($p < 0{\cdot}0001$).

† 'Cut down/work loss' is a sum of two items and signifies the percentage and number of days of either cut down *or* total work loss.

Table 3. *Impairment in persons with PTSD, partial PTSD and neither: percentages with ⩾1 day and conditional mean days*

	PTSD		Partial PTSD		Neither	
Impairment days	⩾1 day (%)	No. days/⩾1 day [Mean (S.D.)]	⩾1 day (%)	No. days/⩾1 day [Mean (S.D.)]	⩾1 day (%)	No. days/⩾1 day [Mean (S.D.)]
Work loss	83·78	16·47 (10·75)	48·60	11·19 (9·52)	27·47	6·78 (7·79)
Cut down/work loss†	90·07	21·17 (9·82)	58·09	13·90 (10·17)	35·01	8·49 (9·07)
Less time with people	84·46	19·82 (9·46)	45·69	14·04 (9·66)	17·52	9·93 (9·37)
Tension/disagreements	87·84	18·77 (10·39)	54·31	11·38 (10·09)	25·23	6·70 (7·19)

The figures in the '⩾1 day' columns are the prevalence estimates of any impairment days in the 30-day period when the respondents were most upset by the traumatic experience.

The figures in the 'No. days/⩾1 day' columns are the averages and standard deviations (S.D.) of number of days in that 30-day period among respondents who reported any impairment days.

Partial PTSD is defined as ⩾1 symptom from each symptom group (B, C and D) and ⩾1 month duration.

'Neither' includes persons exposed to trauma with ⩾1 symptom but not meeting criteria for PTSD or partial PTSD.

† 'Cut down/work loss' is a sum of two items and signifies the percentage and number of days of either cut down *or* total work loss.

corresponding figure in persons with partial PTSD was 48·6%. Odds ratios for reporting ⩾1 work-loss day was 13·6 (95% CI 8·6–21·6) in persons with full PTSD and 2·5 (95% CI 2·0–3·2) in persons with partial PTSD, using the group with neither full PTSD nor partial PTSD as reference. The difference in odds ratio between full and partial PTSD is significant ($p < 0{\cdot}05$). Table 3 also shows that the average number of work-loss days among those with ⩾1 work-loss day in the full PTSD group was higher than in the partial PTSD group, 16·5 *v.* 11·2 days. Taken together, these results show that, compared to partial PTSD, full PTSD was associated with a considerably higher probability of having at least 1 work-loss day, and that among those with any work-loss days, the average number of lost work days was higher. This pattern of results was also observed for the other impairment indicators.

Multivariable analyses of impairment in full PTSD and partial PTSD controlling for sociodemographic factors

In Table 4 results appear from four multiple regression analyses designed to evaluate the effects of full PTSD and partial PTSD on impairment days, controlling for sex, education and employment. The coefficient b is an unstandardized partial regression coefficient and represents the adjusted average increment in number of impairment days associated with full PTSD or partial PTSD, compared to the reference group with neither PTSD nor partial PTSD. The adjusted increment in average number of work-loss days in the group with full PTSD was 11·4 days, compared to 3·3 days in the group with partial PTSD. Similarly large gaps between full PTSD and partial PTSD can be seen on all other indicators. All comparisons between full and partial PTSD in Table 4 are significant.

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Table 4. *Excess impairment days due to PTSD and partial PTSD estimated in multiple regressions*

	Work-loss *b* (S.E.)	Cut down/work loss† *b* (S.E.)	Less time with people *b* (S.E.)	Tensions/disagreements *b* (S.E.)
PTSD	11·41 (0·62)*	15·56 (0·73)*	14·82 (0·66)*	14·47 (0·63)*
Partial PTSD	3·30 (0·40)*	4·86 (0·48)*	4·61 (0·43)*	4·33 (0·41)*
Sex (F)	0·91 (0·36)*	1·09 (0·43)*	0·80 (0·39)*	−0·03 (0·37)
Education				
<HS	2·88 (0·74)*	2·67 (0·87)*	2·08 (0·79)*	1·29 (0·75)
HS>College	1·79 (0·42)*	1·50 (0·50)*	0·77 (0·45)	0·51 (0·43)
Employed	−1·54 (0·45)*	−1·38 (0·54)*	−0·26 (0·49)	−1·10 (0·46)*

Adjusted estimates of number of days in 30-day period when the respondent was most upset by the traumatic experience.
Reference group for PTSD and partial PTSD is group with history of exposure reporting ⩾1 symptom but meeting criteria for neither PTSD nor partial PTSD.
Partial PTSD is defined as ⩾1 symptom from each symptom group (B, C and D) and ⩾1 month duration.
* Coefficient exceeds twice its standard error (S.E.) and is significant at $\alpha = 0{\cdot}05$.
† 'Cut down/work loss' is a sum of two items and signifies the percentage and number of days of either cut down *or* total work loss.

Table 5. *Excess impairment days due to full PTSD and PTSD with two symptoms in group C estimated in multiple regressions*

	Work loss *b* (S.E.)	Cut down/work loss† *b* (S.E.)	Less time with people *b* (S.E.)	Tensions/disagreements *b* (S.E.)
PTSD	11·42 (0·61)*	15·58 (0·73)*	14·85 (0·65)*	14·49 (0·63)*
PTSD with two C symptoms‡	5·04 (0·74)*	7·12 (0·87)*	6·84 (0·79)*	6·09 (0·75)*
Sex (F)	0·89 (0·36)*	1·07 (0·42)*	0·76 (0·38)*	−0·06 (0·36)
Education				
<HS	2·69 (0·73)*	2·44 (0·86)*	1·82 (0·78)*	1·09 (0·74)
HS>College	1·76 (0·41)*	1·47 (0·49)*	0·75 (0·44)	0·50 (0·42)
Employed	−1·47 (0·45)*	−1·28 (0·53)*	−0·14 (0·48)	−1·02 (0·46)*

Adjusted estimates of number of days in 30-day period when the respondent was most upset by the traumatic experience.
Reference is group with ⩾1 PTSD symptom, meeting criteria for neither PTSD nor partial PTSD.
* Coefficient exceeds twice its standard error (S.E.) and is significant at $\alpha = 0{\cdot}05$.
† 'Cut down/work loss' is a sum of two items and signifies the percentage and number of days of either cut down *or* work loss.
‡ Meeting all criteria but missing one symptom from the avoidance and numbing group (C).

Table 4 also shows that, controlling for all other variables in the model, females exceeded males (by approximately 1 day) and persons with less than college education exceeded persons who graduated college in work-related impairment days. Females also exceeded males in number of days in which they spent less time with people due to their reactions. Persons who were employed at the time of the assessment reported fewer disability days during the period in which they were most upset by the trauma.

Persons falling short of full PTSD by one symptom of avoidance and numbing

We evaluated whether persons who fell short of meeting DSM-IV PTSD criteria by one symptom from the avoidance and numbing symptom group (i.e. they endorsed only two symptoms in group C, in the majority of cases, none from the numbing subgroup) ($n = 103$) are distinguishable from persons with full PTSD. Table 5 presents results from multiple regression models, in which persons in this category were separated from the partial PTSD group.

Persons with full PTSD showed significantly more impairment days than persons who fell short by one symptom in C. For example, the excess number of work-loss days in persons with full PTSD was 11·4 days, compared to 5·0 days in persons missing one symptom in C, using persons with neither full PTSD nor partial PTSD as reference. The differences between the group with full PTSD and the group missing one symptom in C were significant on all indicators of impairment ($p < 0{\cdot}05$).

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Table 6. *Excess impairment days associated with PTSD in persons with ⩾6 symptoms estimated in multiple regressions* ($n=487$)

	Work loss *b* (S.E.)	Cut down/work loss† *b* (S.E.)	Time with people *b* (S.E.)	Tension/disagreements *b* (S.E.)
PTSD	2·99 (1·25)*	4·82 (1·37)*	4·07 (1·37)*	3·55 (1·32)*
No. symptoms	0·93 (0·20)*	1·00 (0·22)*	1·13 (0·22)*	1·35 (0·21)*
Sex (F)	0·27 (0·91)	1·41 (1·00)	1·01 (1·00)	−1·17 (0·97)
Education				
<HS	5·02 (1·70)*	4·52 (1·86)*	2·78 (1·83)	0·10 (1·78)
HS>College	4·05 (1·11)*	3·14 (1·23)*	1·13 (1·22)	−0·80 (1·19)
Employed	−3·46 (1·05)*	−2·59 (1·14)*	−0·30 (1·13)	−1·98 (1·10)

Adjusted estimates of number of days in 30-day period when the respondent was most upset by the traumatic experience.
* Coefficient exceeds twice its standard error (S.E.) and is significant at $\alpha=0{\cdot}05$.
† 'Cut down/work loss' is a sum of two items and signifies the percentage and number of days of either cut down *or* total work loss.

Does the DSM-IV configuration of PTSD criterion symptoms predict impairment controlling for number of symptoms?

The DSM-IV PTSD definition requires the presence of six or more symptoms distributed across the three symptom groups, with specified minimum numbers per group, as described above. Using persons with ⩾6 symptoms and ⩾1 month duration ($n=487$), we applied multiple regressions to evaluate whether the DSM-IV configuration of symptoms adds unique predictive power, controlling for number of symptoms (Table 6). The results show that PTSD was associated with significant excesses of work-loss days, cut down/work-loss days, days of less time with people and days of tension or disagreement in personal life, controlling for number of PTSD symptoms and other covariates. The estimated average number of work-loss days (i.e. totally unable to work) associated with PTSD, controlling for number of PTSD symptoms, was 3·0. Similar results were observed for other impairment indicators. Number of PTSD symptoms was a significant predictor: on average, each additional symptom was associated with an increase of approximately one impairment day on each of the indicators.

Duration of symptoms and types of trauma in partial *versus* full PTSD

Mean duration of symptoms was lower in partial PTSD than full PTSD, 39·6 *v.* 47·0 months, although the difference was not significant. However, a significantly higher proportion of cases of full PTSD than partial PTSD continued to experience symptoms for more than 2 years, 42·4% *v.* 32·6% (χ^2, 1 df = 4·75, $p=0{\cdot}029$).

Of all the cases of full PTSD, 68·4% were attributable to either assaultive violence (36·2%) or sudden unexpected death of a loved one (32·2%). The corresponding proportion of the total cases of partial PTSD falling in these two categories was 46·2%. The category of vicariously experienced events, i.e. events falling under the rubric 'learning about traumatic events experienced by a close friend or relative', constituted 23·0% of the precipitating traumas in cases of partial PTSD, but only 9·2% of the precipitating traumas in cases of full PTSD ($\chi^2=13{\cdot}682$, $p=0{\cdot}0002$).

DISCUSSION

Partial PTSD had considerably fewer consequences to the individual than full PTSD. The following specific findings support this conclusion. (1) The *per capita* averages of number of days of total work loss and days of either work loss or cut-back, as well as days of personal distress, were significantly and markedly higher in persons with full PTSD than partial PTSD. (2) The *adjusted* (for sex, education and employment) *per capita* increments in number of impairment days were significantly and markedly higher in persons with full PTSD than partial PTSD, using exposed persons with ⩾1 symptom but with neither full nor partial PTSD as reference. (3) Impairment in exposed persons with ⩾6 symptoms (the minimal number in PTSD) increased as number of symptoms increased (up to the possible maximum of 17). However, within this range, impairment does not merely reflect the number of PTSD symptoms; the configuration of symptoms that

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constitute the disorder matters. Additional findings that further support the disparity between full PTSD and partial PTSD are (1) the higher proportion of full PTSD cases with symptom duration exceeding 2 years and (2) the differences in the distribution of trauma types in cases with full PTSD *versus* partial PTSD, specifically, full PTSD contains a larger proportion of persons with 'high magnitude' events as the precipitating cause.

Persons with partial PTSD reported more impairment days than exposed persons with $\geqslant 1$ symptom but with neither partial nor full PTSD. However, the critical finding is that the excess in work-loss days (and other impairment indicators) was markedly lower in persons with partial than full PTSD. For example, persons with partial PTSD reported an excess of 3·3 work-loss days, whereas persons with full PTSD reported an excess of 11·4 days (compared to exposed persons with neither full nor partial PTSD). On this count, the results of this analysis do not confirm the studies of Stein *et al.* (1997, 2002) that concluded that PTSD and partial PTSD were, by and large, indistinguishable with respect to impairment. Methodological features of the studies by Stein *et al.* (1997, 2002) might have obscured differences between the two categories, as we suggest in the Introduction.

A comment about the focus on the 30-day period when the respondent was most upset is in order. It might be assumed that this period is likely to occur immediately after the exposure to the trauma, before the 1-month duration criterion could have been established. However, the *duration criterion* should not be confused with the *time of onset of the disorder* in persons who met PTSD (or partial PTSD) criteria including the 1-month duration, with the onset determined according to the time PTSD symptoms began.

The cross-sectional nature of the study and the reliance on retrospective data raise the possibility of recall errors. To address this limitation, studies that follow-up trauma victims for several years with frequent assessments are needed. Such studies would shed light on the course of symptom development and disability level from the time of exposure to symptom remission. Of particular interest is the longitudinal relationship between the number and nature of PTSD symptoms and level of impairment, and the extent to which shared or separate factors influence their course.

The results of this study provide evidence that DSM-IV PTSD identifies the most severely affected trauma victims, who are clearly distinguishable from victims with symptoms that fall short of full PTSD criteria. They also indicate that among persons with $\geqslant 6$ symptoms (which are the minimal number of symptoms in PTSD), those with PTSD had significantly excess impairment, controlling for number of symptoms. Previous studies that showed an increased risk for other psychiatric disorders in persons with PTSD but not in exposed persons who did not succumb to PTSD further highlight the distinctiveness of full PTSD (North *et al.* 1999; Breslau *et al.* 2000, 2003). A factor in the severity of full PTSD is the high co-occurrence of other disorders.

Understanding the relationship between PTSD and partial PTSD has important implications, given the size of the category of partial PTSD. In our study, the size of the partial PTSD group was more than twice the size of the full PTSD group. In Stein *et al.*'s 2002 study, the size of the partial PTSD group was fourfold higher than that of the full PTSD group. In Stein *et al.*'s 1997 study, the categories of current partial and full PTSD were small and similar in size, 19 and 20 respectively.

The results underscore the uniqueness of avoidance and numbing (C criterion), especially the numbing symptoms, among the DSM-PTSD features. The observed difference of more than 6 work-loss days (11·4 *v.* 5·0) between persons with PTSD and persons who fell short of the full criteria by only one symptom of avoidance and numbing (endorsing two rather than three symptoms in that group) provides strong support for this conclusion. Previous research has indicated that the avoidance and numbing criterion is the defining feature in PTSD, as only a small proportion of exposed persons who report symptoms of re-experiencing and disturbed arousal fulfill this condition (Breslau *et al.* 1999; North *et al.* 1999). Avoidance and numbing symptoms signify more pervasive and severe psychopathology (Carlier & Gersons, 1995). In a study of the victims of a disaster, meeting this criterion was associated with a higher rate of receiving mental health treatment, greater functional impairment and markedly higher rates of

lifetime co-morbidity with other psychiatric disorders (North *et al*. 1999).

The findings indicate a disjuncture between DSM-PTSD and partial categories that do not meet full criteria. These results do not support the assumption that the presence of PTSD symptoms in partial PTSD signifies an underlying PTSD process (i.e. the distinctive pathological response to trauma that the DSM definition of PTSD is presumed to capture). This conclusion likewise holds for symptoms such as intrusion and avoidance that are considered to be 'typical' of PTSD (i.e. integral to the pathodynamics of PTSD).

The task of evaluating the extent to which partial PTSD is a 'disorder' in its own right cannot be addressed in this study, although we have demonstrated that it is different from full PTSD with respect to impairment, duration of symptoms and etiologic events. Evidence from previous research is pertinent to this question as well. This evidence includes the findings that, in the absence of PTSD, the victims' risk for other psychiatric disorders is not substantially increased. Forthcoming reports from a community-based sample suggest that trauma victims who did not succumb to PTSD differed significantly from those with lifetime PTSD on biological measures, such as mean levels of catecholamine (Young & Breslau, in press) or brief arousals from REM sleep (Breslau *et al*. in press).

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DECLARATION OF INTEREST

None.

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