WEB TABLE 1. Summary of diagnostic criteria for Post-traumatic stress disorder in Diagnostic and Statistical Manual III, III-R, and IV

	Diagnostic and Statistical Manual of Mental Disorders (Third Edition) (DSM-III) (12)	Diagnostic and Statistical Manual of Mental Disorders (Third Edition, Revised) (DSM-III-R) (42)	Diagnostic and Statistical Manual of Mental Disorders (Fourth Edition) (DSM-IV) (43)
Diagnostic Criteria	Meet diagnostic criteria for PTSD: Criterion A; Criterion B (≥1 symptom); Criterion C (≥1 symptom); Criterion D (≥2 symptoms).	Meet diagnostic criteria for PTSD: Criterion A; Criterion B (≥1 symptom); Criterion C (≥3 symptoms); Criterion D (≥2 symptoms); Criterion E.	Meet diagnostic criteria for PTSD if: Criterion A (Symptom A and B); Criterion B (≥1 symptom); Criterion C (≥3 symptoms); Criterion D (≥2 symptoms); Criterion E; Criterion F.
A	Existence of a recognizable stressor that would evoke significant symptoms of distress in almost anyone.	The person has experienced an event that is outside the range of usual human experience and that would be markedly distressing to almost anyone.	The person has been exposed to a traumatic event in which both of the following were present:
A(1)	Not applicable	Not applicable	The person experienced, witnessed, or was confronted with an event or events that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or others.
A(1)	Not applicable	Not applicable	The person's response involved intense fear, helplessness, or horror. Note: In children, this may be expressed instead by disorganized or agitated behavior.
В	Re-experiencing of the trauma as evidences by at least of the following ways:	The traumatic event is persistently reexperienced in at least one of the following ways:	Same as DSM-III-R.
B(1)	Recurrent and intrusive of an event.	Recurrent and intrusive distressing recollections of the event, including images, thoughts, or perceptions.	Same as DSM-III-R.
B(2) B(3)	Recurrent dreams of the event. Sudden acting or feeling as if the traumatic event were reoccurring, because of an association with an environmental or ideational stimulus.	Recurrent distressing dreams of the event. Sudden acting or feeling as if the traumatic event were reoccurring, (includes a sense of reliving the experience, illusions, hallucinations, and dissociative flashback episodes, including those that occur on awakening or when intoxicated) because of an association with an environmental or ideational stimulus.	Same as DSM-III-R. Same as DSM-III-R.
B(4)	Not applicable	Intense psychological distress at exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event.	Same as DSM-III-R.

B(5)	Not applicable	Not applicable	Intense psychological distress at exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event.
С	Numbing of responsiveness to or reduced involvement with external world, beginning some time after the trauma, as shown by at least one of the following:	Persistent avoidance of stimuli associated with the trauma and numbing of general responsiveness (not present before the trauma), as indicated by three (or more) of the following:	Same as DSM-III-R.
C(1)	Markedly diminished interest in one or more significant activities.	Efforts to avoid thoughts or feelings associated with the trauma.	Efforts to avoid thoughts, feelings, or conversations associated with the trauma.
C(2)	Feeling of detachment or estrangement from others.	Efforts to avoid activities or situations that arouse recollections of the trauma.	Efforts to avoid activities, places, or people that arouse recollections of the trauma.
C(3)	Constricted affect.	Inability to recall an important aspect of the trauma (psychogenic amnesia).	Same as DSM-III-R.
C(4)	Not applicable	Markedly diminished interest of participation in significant activities.	Same as DSM-III-R.
C(5)	Not applicable	Feeling of detachment or estrangement from others.	Same as DSM-III-R.
C(6)	Not applicable	Restricted range of affect (e.g., unable to have loving feelings.	Same as DSM-III-R.
C(7)	Not applicable	Sense of a foreshortened future (e.g., does not expect to have a career, marriage, children, or a normal life span).	Same as DSM-III-R.
D	At least two of the following symptoms that were not present before the trauma:	Persistent symptoms of increased arousal (not present before the trauma), as indicated by two (or more) of the following:	Same as DSM-III-R.
D(1)	Hyperalertness or exaggerated startle response.	Difficulty falling or staying asleep.	Same as DSM-III-R.
D(2)	Sleep disturbance.	Irritability or outbursts of anger.	Same as DSM-III-R.
D(3)	Guilt about surviving when others have not, or about behavior required for survival.	Difficulty concentrating.	Same as DSM-III-R.
D(4)	Memory impairment or trouble concentrating.	Hyperviligance.	Same as DSM-III-R.
D(5)	Avoidance of activities that arouse recollection of the traumatic event.	Exaggerated startle response.	Same as DSM-III-R.
D(6)	Intensification of symptoms by exposure to events that symbolize or resemble the traumatic event.	Physiologic reactivity upon exposure to events that symbolize or resemble an aspect of the traumatic event (e.g., a woman who	Not applicable

E	Not applicable	was raped in an elevator breaks out in a sweat when entering any elevator). Duration of the disturbance (symptoms in Criteria B, C, and D) is more than one month.	Same as DSM-III-R.
F	Not applicable	Not applicable	The disturbance causes clinically significant distress or impairment in social, occupational, or other areas of functioning.

^{*}Serious threat to one's life or physical integrity; serious threat or harm to one's children, spouse, or other close relatives and friends; sudden destruction of one's home or community; or seeing another person who has recently been, or is being, seriously injured or killed as the result of an accident or physical violence.

WEB TABLE 2. Key studies assessing post-traumatic stress after human-made or technological disasters

Sample; N; (reference no.)	Timeframe*	PTSD Measure	Main Findings
	1	966 Aberfan Mining Disaster, Sout	th Wales—October 21, 1966
Exposed survivors (n=41) and unexposed matched controls (n=72); N=113; (62)**	33 years 1972	Composite International Diagnostic Interview and the Impact of Events Scale Buffalo Creek Dam Collapse, We	Prevalence of PTSD since the disaster. 46% of survivors compared to 20% of controls (OR‡ = 3.38); Prevalence of current PTSD at 33 years (scoring ≥35 on IES): 29% of survivors est Virginia—February 26, 1972
Children (ages 2-15) exposed to the disaster; N=179; (95)**	2 years	Clinical evaluations retrospectively examined using DSM-III-R criteria	Prevalence of PTSD: 37%; Correlates of PTSD symptoms: life threat, female gender, mother's overall severity, irritable family atmosphere, depressed family atmosphere
Adults exposed to the disaster; N=193; (75)**	14 years	Modified Structured Clinical Interview for DSM-III; caseness required at least 2 criteria C and 1 criteria D symptom	Prevalence of PTSD: 59.4% anytime after incident, 25.0% current at 14 years; Correlates of PTSD prevalence at 14 years: blocked during escape from flood waters, being injured, exposure to the elements for a long period, losing a household member
Adults exposed to the disaster; N=120 at 14 years; (125)†	2 and 14 years	Structured Clinical Interview for DSM-III modified to address most DSM-III-R criteria	Correlates of persistent PTSD: blocked while trying to escape flood waters, exposure to elements directly after flood, death in household; Course: prevalence of disaster-related PTSD decreased from 44% at 2 years to 28% at 14 years; 17% of the sample had persistent PTSD, 28% recovered, 44% did not have PTSD at 2 or 14 years, and 11% were delayed cases
Adults exposed to the disaster as children; N=99; (126)**	17 years	Structured Clinical Interview for DSM-III-R—Non-patient version, with the PTSD section added 1979 Three Mile Island Nuclear	Prevalence of disaster-related PTSD: 32% anytime after incident, 7% current at 17 years; Correlates of PTSD symptoms: injury, loss of pets *Accident—March 1979
Exposed residents and unexposed controls; N=122; (39)**	58 months	Impact of Events Scale Alexander L. Kielland Oil Rig Disas	Correlates of PTSD symptoms: being in exposed group, higher levels of chronic stress
Exposed professional and non- professional rescue workers; N=134; (83)**	9 months	Impact of Events Scale	Prevalence of high levels of PTSD severity: 15% on intrusion scale, 13% on avoidance scale
14 16 1, (66)	1983 Apa	artment Building Explosion, Greenv	ville, North Carolina—March 2, 1983
Rescue, fire, and medical personnel involved in rescue and treatment on-site (n=53) or at hospital (n=26); N=79; (80)**	5 months	Caseness required at least 1 reexperiencing, 1 avoidance, and 2 arousal symptoms	Prevalence of PTSD: 13.9%; Correlates of PTSD symptoms: working on-site (vs. at hospital)
	1984	School Playground Sniper Attack, I	
Children from the school directly or indirectly exposed; N=159; (106)**	1 month	Revised children's version of the PTSD Reaction Index,	Prevalence of moderate to severe PTSD symptomatology: 38.4%; Correlates of high levels of PTSD severity: proximity to shooting, knowledge of victim

		based on DMS-III criteria	
Directly exposed and unexposed children from the Los Angeles school district; N=100; (106)†	1 and 14 months	Revised children's version of the PTSD Reaction Index, based on DMS-III criteria	Correlates of high levels of PTSD symptomatology at 14 months: exposure, severity of child's baseline reaction, acquaintance with deceased (among unexposed), guilt feelings (among unexposed); Course: 74% of exposed children continued to report symptoms at 14 months compared to only 19% of unexposed children
		1984 Airplane Crash Landing,	
Male college basketball players on board the aircraft; N=30; (136)†	12 days; 2, 5, 10, and 12 months	PTSD diagnosed using a structured interview based on DSM-III criteria 1985 Bus-Train Collision, Isi	Course: PTSD prevalence declined from 54% at 12 days to 10-15% at 12 months rael—June 11, 1985
Exposed survivors (n=306) and unexposed controls (n=83); N=389; (124)**	7 years	PTSD Inventory, based on DSM-III-R criteria	Correlates of PTSD symptoms: being highly exposed
, ()	198	36 Chernobyl Nuclear Reactor Acci	ident, Ukraine—April 26, 1986
Population samples from Gomel (n=1617) and Tver (n=1427); N=3044; (91)**	6.5 years	12-item version of the General Health Questionnaire, based on DSM-III-R criteria	Prevalence of PTSD: prevalence was 2.4% in Gomel (near the accident site) compared to 0.4% in Tver (500 miles away)
Male workers who participated in decontamination; N=71; (85)**	6-7 years	PTSD diagnosed according to DSM-III-R criteria	Prevalence of PTSD: 20% diagnosed with PTSD, 22% were at risk, and 58% were at no risk or mild risk for PTSD
Immigrants from the Former Soviet Union to Israel from variably exposed and unexposed areas; N=699; (128)**	8 years	Impact of Events Scale	Correlates of PTSD symptoms: being in high exposure group, number of stressful life events
Survivors who migrated to the US from the general and clinical populations of Russian immigrants in the New York tri-state area; N=261; (103)**	15 years	Revised Civilian Mississippi PTSD Scale	Correlates of PTSD symptoms: being in the clinical subgroup, older age, proximity to disaster, having left the Former Soviet Union (FSU) for environmental reasons, having left the FSU because of discrimination
,	1987 He	erald of Free Enterprise Car Ferry	Disaster, Belgium—March 6, 1987
Survivors (n=47) and relatives of victims; (n=28); N=75; (74)**	Within 2 years	PTSD diagnosed according to DSM-III-R criteria	Prevalence of PTSD: 36%; Correlates of PTSD prevalence: being in non- bereaved group
Adult survivors; N=73; (129)**	30 months	Impact of Events Scale	Correlates of intrusive symptoms: greater perception of helplessness, bereavement; Correlates of avoidance symptoms: crisis support
Adult survivors; N=73 at 3 years, 37 at 5 years; (112)†	3 and 5 years	Impact of Events Scale	Correlates of intrusive scores at 5 years: intrusion scores at 3 years; Correlates of avoidance symptom scores at 5 years: negative attitudes at 3 years, avoidance scores at 3 years

Adult survivors; N=73 at 3 years, 37 at 6 years; (121)†	3 and 6 years	Impact of Events Scale	Correlates of intrusive symptoms at 6 years: intrusion scores at 3 years; Correlates of avoidance symptoms at 6 years: less crisis support, avoidance scores at 3 years; Course: intrusive symptoms declined significantly between 3 and 6 years
Hotel employees who were on-site (n=17) or off-site (n=29); N=46; (72)**	4-6 weeks	Jet Fighter Crash into Ramada Inn Diagnostic Interview Schedule/Disaster Supplement, based on DSM-III criteria	n, Indianapolis—October 20, 1987 Prevalence of PTSD: 22% among all employees, 29% among those who were on-site, 17% among those who were off-site
	198	7 Train Collision Accident, Lerum,	·
Injured patients from a hospital and a primary care center; N=66; (104)**	10 days 1987 <i>K</i> i	Avoidance and intrusion symptoms ing's Cross Underground Railway	Correlates of avoidance symptoms: female gender, perception of threat to life; Correlates of intrusion symptoms: perception of threat to life Fire, London—November 18, 1987
Directly exposed persons, including passengers and emergency medical personnel; N=50; (90)**	1-12 months	Impact of Events Scale	Correlates of PTSD symptoms: severe exposure to the disaster
		1988 School Shooting, Winnetk	a, Illinois—May 20, 1988
School personnel directly or indirectly exposed; N=24; (107)**	6 months	20-item Reaction Index-Adult Version	Correlates of PTSD symptoms: guilt and resentment, insecurity, psychasthenia
Public safety, medical, and mental health emergency services workers who responded to the shooting; N=140; (61)**	6 months	Impact of Events Scale	Correlates of current intrusion and avoidance symptoms: perceived qualitative work load; Course: intrusion and avoidance symptoms decreased significantly over follow-up for all groups of emergency service workers
Children (n=64) and parents/school personnel (n=66) directly or indirectly exposed; N=130; (101)**	8-14 months	20-item Reaction Index modified to reflect DSM-III- R criteria	Prevalence of PTSD: 3% among adults, 8% among children; Correlates of PTSD among adults: guilt, fear that perpetrator was still loose that day; Correlates of PTSD among children: guilt, thought they would be shot, physical symptoms, more visits to school nurse, recklessness, fears
		1988 Piper Alpha Oil Rig Di	•
Police officers who searched for and identified human remains; N=48 at 3 months, 25 at 3 years; (79)†	3 months and 3 years	Impact of Events Scale	Course: total posttraumatic symptom scores decreased significantly between 3 months and 3 years
Survivors; N=33; (73)**	10 years	Clinician Administered PTSD Scale for DSM-IV, Current and Lifetime Diagnostic Version	Prevalence of PTSD: 73% acute diagnosis, 21% current at 10 years; Correlates of current PTSD prevalence at 10 years: impairment in social and occupational functioning; Correlates of PTSD symptoms: sustained anger, chronic dissociative symptoms, saw death of and/or injury to colleagues, difficulty finding work post-disaster
Professional and volunteer emergency responders; N=43; (81)†	1 and 13 months	1988 Fatal School Bus Accident, Impact of Events Scale	Norway—August 15, 1988 Prevalence of high levels of PTSD severity at 1 month: 25% among voluntary workers compared 13% among professional helpers; Correlates of PTSD symptoms scores at 1 month: being in voluntary worker group (vs.

			professional); <i>Course</i> : symptoms declined significantly between 1 and 13 months
Adults from Stockholm whose child or spouse were among the bus passengers; N=36; (221)†	1, 3, and 5 years	Impact of Events Scale	Course of high intrusion scores: 39% at 1 year, 22% at 3 years, 31% at 5 years; Course of high avoidance scores: 19% at 1 year, 19% at 3 years, 3% at 5 years
	1988 Air Sho	ow Midair Collision, Ramstein Air Fo	orce Base, Germany—August 28, 1988
Military medical health care who cared for victims; N=355; (82)†	6, 12, and 18 months	Modified version of the Symptom Checklist-9R and the Impact of Events Scale; caseness required meeting DSM-III-R criteria and scoring >19 on the IES	Correlates of PTSD prevalence: less education, working with burn patients, stressful events in 6 months post-disaster; Course: prevalence decreased from 12.1% at 12 months to 7.3% at 18 months
		1988 Jupiter Shipping Disaster, G	
Adolescent survivors (n=217) from 15 UK schools and unexposed friends or acquaintances (n=87) from the same schools; N=304; (77)†	5 months and 5-8 years	Clinician Administered PTSD Scale; PTSD defined according to DSM-IV criteria	Incidence of PTSD during follow-up: 51.5% of the survivors compared to 3.4% of unexposed controls; Onset: 90% of PTSD cases developed within 6 months; Course: 30% of survivors who developed PTSD recovered within a year of onset, 34% still had PTSD at follow-up; 26% of survivors had PTSD for over 5 years
Survivors (ages 11-18) from 15 UK schools; N=217; (117)†	5 months and 5-8 years	Clinician Administered PTSD Scale; PTSD defined according to DSM-IV criteria	Correlates of PTSD incidence: seeing blood during sinking (OR = 2.36), being trapped during sinking (OR = 3.73), thought of not escaping (OR = 1.18), fear or panic (OR = 1.54), anxious at baseline (OR = 1.15); Correlates of longer PTSD duration (≥2 years): relationship difficulties (OR = 2.35), childhood illness (OR = 5.16), depression symptoms at baseline (OR = 1.08); Correlates of PTSD severity among those with PTSD: childhood separation anxiety, not receiving help and support in school after disaster, depression symptoms at baseline
British mothers of adolescent children that were directly involved; N=37; (63)†	3 months and 6 years	Posttraumatic Stress Symptom Scale, based on DSM-III-R criteria	Course: prevalence of PTSD was 35.1% at 3 months and 8.1% at 6 years
		1988 Clapham Rail Accident, U	
Survivors (n=187) and unexposed controls (n=104); N=291; (76)**	10-22 months	Impact of Events Scale; caseness required a score ≥40 1989 Kegworth Air Disaster, U	Prevalence of medium to high levels of intrusive PTSD severity: 37% among exposed vs. 21% among controls; Prevalence of medium to high levels of avoidance PTSD severity: 28% among exposed vs. 17% among controls; Correlates of intrusive PTSD symptoms: injury severity, feeling at risk of death; Correlates of avoidance PTSD symptoms: injury severity, feeling trapped, witnessing death UK—January 8, 1989
Survivors of the crash; N=68; (69)**	6-12 months	Diagnoses were made according to DSM-III-R criteria	Prevalence of PTSD: 40%; Correlates of PTSD prevalence: younger age, seeing injured or dead passengers, lower injury severity, increased alcohol consumption

		1989 Exxon Valdez Oil Spill, Al	laska—March 24, 1989
Residents of 13 communities highly exposed (n=145), mildly exposed (n=167), or unexposed (n=281); N=593; (92)**	1 year	Modified version of the Diagnostic Interview Schedule-Version 3, based on DSM-III-R criteria	Prevalence of post-disaster PTSD: 9.4%; Correlates of PTSD prevalence: being in highly exposed group (OR = 2.63), female gender (OR = 2.20)
Commercial fishers from a community economically affected by the incident; N=125; (70)**	6 years	Crime Related Post Traumatic Stress Disorder subscale of the Symptom Checklist 90- Revised; caseness defined using a 0.89 cutoff score	Prevalence of PTSD: 34% among males, 40% among females; Correlates of PTSD prevalence: avoidance coping, changes in relationships with non-relatives, changes in physical health, investment without gain
	1989 H	illsborough Football Stadium Disas	ster, Sheffield, UK—April 15, 1989
Police officers involved in at least one distressing situation during the disaster; N=70; (87)**	1-2 years	PTSD assessed using a scale based on DSM-III-R criteria	Prevalence of PTSD: 44.3% classified with severe symptom severity, 44.1% classified with moderate symptom severity; Correlates of PTSD symptoms: depressive symptoms after the incident, depersonalization
		1989 USS Iowa Gun Turret Exp	•
Directly exposed volunteer mortuary workers; N=54 at 1 month, 41 at 4 months, 44 at 13 months; (137)†	1, 4, and 13 months	Symptom Checklist-90-R, Impact of Events Scale, and 12 additional items; caseness required meeting DSM-III-R criteria and scoring >19 on the IES	Course: PTSD prevalence decreased from 11% at 1 month to 10% at 4 months to 2% at 13 months after the incident
Directly exposed volunteer mortuary workers; N=54 at 1 month, 41 at 4 months, 44 at 13 months; (222)†	1, 4, and 13 months	Symptom Checklist-90-R, Impact of Events Scale, and 12 additional items	Correlates of post-disaster PTSD: identifying with the deceased as a friend ("it could have been my friend")
		1989 Bus Disaster, Israe	el—July 6, 1989
Survivors of the incident; N=12 at 2 days, 12 at 8-10 months; (41)†	2 days and 8- 10 months	17-item PTSD checklist based on DSM-III-R criteria	Prevalence of PTSD at 8-10 months: 33% ames River, UK—August 20, 1989
Adult auminora OF of whom were			
Adult survivors, 25 of whom were multiply bereaved; N=27; (223)**	10 months	Impact of Events Scale	Prevalence of PTSD symptoms: mean IES score (46.37) was higher than the normal population estimate of 10 and the mean of 34 reported in a study of stress clinic attendees
	1989 Loma F	Prieta Earthquake, San Francisco E	Bay Area, California—October 17, 1989
154 emergency services exposed (from I-880 freeway collapse) and a control group of 213 from the San Francisco and San Diego areas; N=367; (109)**	1.5 years for exposed; 3- 4 years for controls	Mississippi Scale for Combat- related PTSD (M-PTSD), modified for civilian EMS worker use	Correlates of PTSD prevalence: fewer years of EMS experience, less social support, lower levels of psychological adjustment, external locus of control, exposure, more peri-traumatic dissociative experiences
• •		1989 Lockerbie Disaster, Scotla	nd—December 21, 1989
Adult residents of Lockerbie claiming	10-14 months	Clinical examinations with	Prevalence of PTSD: moderate to severe PTSD present in 44% of claimants;

insurance compensation; N=66 (78)**		diagnosis according to DSM-III-R criteria	73% of claimants had PTSD of any degree.
Community sample of adults who claimed insurance compensation; N=25; (139)†	10-14 months an 3 years	Clinical examinations with diagnosis according to DSM-III-R criteria	Prevalence of PTSD: prevalence decreased from 72% at 10-14 months to 48% at 3 years; Course: 28% remained free of PTSD throughout follow-up; 48% represented persistent cases; 24% of PTSD cases recovered
Elderly residents of Lockerbie; N=31 at 1 year, 19 at follow-up; (138)†	1 and 3 years	Clinical examinations with diagnosis according to DSM-III-R criteria	Prevalence of PTSD: Prevalence decreased from 74% at 1 year to 16% at 3 years
	•	1991 Toxic Chemical Railroad Spil	ll, California—July 14, 1991
Exposed residents (n=295) of affected areas and unexposed controls (n=114); N=409; (108)**	3-4 months	Impact of Events Scale; caseness determined using cutoff score of 46	Prevalence of PTSD: 14.9% among exposed, 11.4% among controls; Correlates of PTSD prevalence: exposure, tension, depression, anger, fatigue, confusion
Exposed residents (n=350) of affected areas and unexposed controls (n=114); N=464; (58)**	3-4 months	Minnesota Multiphasic Personality Inventory 2 PTSD subscale	Correlates of PTSD: being in exposed group
, , , , , ,	19	91 Mass Shooting Episode, Killee	n, Texas—October 16, 1991
Persons directly or indirectly exposed to the shooting; N=113; (71)**	1 month	Diagnostic Interview Schedule/Disaster Supplement, based on DSM-III-R criteria	Prevalence of PTSD: 28.6% in total sample (20.3% among men, 35.8% among women); Correlates of PTSD prevalence: any pre-disaster psychiatric disorder excluding PTSD (among women), post-disaster depression
Persons directly or indirectly exposed to the shooting; N=136 at 6-8 weeks, 124 at 13-14 weeks; (66)†	6-8 weeks and 13-14 months	Diagnostic Interview Schedule/Disaster Supplement, based on DSM-III-R criteria	Onset: 68% reported symptom onset the day of the incident, 22% the week after, and 11% later in the month; Correlates of PTSD prevalence: female gender, pre-disaster psychopathology (among women), pre-disaster depression, acute post-disaster psychiatric illness or depression; Course of current PTSD: prevalence decreased from 27.2% at 6-8 weeks to 17.7% at 13-14 months
Persons directly or indirectly exposed to the shooting; N=136 at 6-8 weeks, 124 at 13-14 weeks, 116 at 3 years; (110)†	6-8 weeks, 13- 14 months, and 3 years	Diagnostic Interview Schedule/Disaster Supplement, based on DSM-III-R criteria	Correlates of PTSD prevalence: abandonment of control (at 6-8 weeks, 13-14 months, and 3 years), passive isolation (at 6-8 weeks); Course of current PTSD: 29% at 6-8 weeks, 17% at 13-14 months, 19% at 3 years
Adults directly or indirectly exposed to the shooting; N=136 at 6-8 weeks, 116 at 3 years; (64)†	6-8 weeks, 13- 14 months, and 3 years	Diagnostic Interview Schedule/Disaster Supplement, based on DSM-III-R criteria	Correlates of chronic PTSD at 3 years post-disaster: functional impairment, seeking mental health treatment at baseline; Course of current disaster-related PTSD: 26% at 6-8 weeks, 14% at 1 year, 18% at 3 years
	1991 Imp	erial Foods Industrial Fire, Hamlet	t, North Carolina—September 1991
Students from 2 schools in the affected community; N=1019; (134)**	9 months	Self-Reported Post-Traumatic Symptomatology scale; caseness according to DSM-III-R criteria 1992 Los Angeles County Civil Dis	Prevalence of PTSD: 11.9%; Correlates of PTSD symptoms: exposure to disaster, African-American ethnicity, female gender
Household probability sample of	6-8 months	National Women's Study	Prevalence of current (past 6 months) PTSD: 4.1%; Correlates of PTSD
		,	v /

adults from L.A. County; N=1200; (65)**		PTSD Module, based on DSM-III-R criteria 1992 Courthouse Shooting, M	prevalence: lifetime traumatic events (OR = 1.50), past year stressful events (OR = 1.44), past year victimization (OR = 2.02), disturbance exposure (OR = 1.26) ### 1.50 ###
Courthouse employees and offices of exposed individuals; N=80 at 6-8 weeks, 77 at 1 and 3 years; (67)†	6-8 weeks; 1 and 3 years	Diagnostic Interview Schedule/Disaster Supplement	Prevalence of disaster related PTSD: 5%; Onset: 6 of 8 cases reported symptom onset on the day of the incident; Correlates of PTSD symptoms at 6-8 weeks: older age, less than a college education, currently married; Course: 6 of 8 cases of PTSD were resolved by 3 years; symptoms decreased significantly between baseline and follow-up
	1:	992 Bijlmermeer Plane Crash, Net	therlands—October 4, 1992
Adult disaster victims from the most severely damaged apartment blocks and adjacent buildings; N=136; (132)**	6 months	17-item Structured Interview for PTSD, adapted for DSM-III-R criteria	Prevalence of PTSD: 26%; Correlates of PTSD prevalence: losing a loved one, suffering material damage or lost home, being at home during the incident
, ()		1993 World Trade Center Bomb	ning—February 26, 1993
Exposed public school students at the World Trade Center during the explosion (N=22), and 27 unexposed controls; N=49; (60)†	3 and 9 months	Posttraumatic Stress Reaction Index	Correlates of PTSD symptoms: being in exposed group; Course: prevalence of severe to very severe symptomatology among exposed children decreased from 27% at 3 months to 14% at 9 months
, (00)	1993 Fii	re at the Branch Davidian Compoເ	und, Waco, Texas—April 19, 1993
Exposed dentists (n=31) who performed postmortem identifications and unexposed control dentists (n=47); N=78; (120)**	6 months	Impact of Events Scale	Correlates of PTSD symptoms: being in exposed group, duration of exposure to remains, younger age (among exposed), spouse and co-worker support (among exposed)
(123)		1993 Sivas Religious Uprisings	s, Turkey—July 2, 1993
Highly exposed fire survivors (n=27), moderately exposed violent protest survivors (n=34), and mildly exposed health professionals (n=18); N=79; (130)†	1, 6, 12, and 18 months	PTSD defined according to DSM-III-R criteria	Prevalence of acute PTSD: 20.3%; Prevalence of chronic PTSD: 12.7%, of which 1.3% resolved by 18 months and 11.4% persisted; Prevalence of delayed-onset PTSD: 16.5%, of which 11.5% were resolved by 18 months and 5.0% persisted; Correlates of chronic PTSD: extent of trauma
(100)		1994 Brooklyn Bridge Shoo	ting—March 1, 1994
Hasidic students (ages 16-22) who survived a shooting attack on their van; N=11; (56)†	8 weeks and 10 months	Posttraumatic Stress Disorder Symptom Scale, based on DSM-IV criteria	Prevalence of PTSD: 4 of 11 students (28%) had PTSD at 8 weeks; Course: At 10 months, all 4 students with PTSD at 8 weeks showed persistent symptoms of PTSD
		4 Crash of US Air Flight 427, Peni	•
21 therapists who provided post- disaster counseling and 20 control	4, 8, and 12 weeks	Symptom checklist measuring 6 DSM-IV PTSD symptoms	Course: at 4 and 8 weeks, the exposed group reported significantly more PTSD symptoms than the controls; by 12 weeks, only symptoms of avoidance were

therapists; N=41; (86)†			more common among the exposed
Exposed disaster workers involved in the body recovery process; N=41; (84)**	6 months	Caseness required meeting DSM criteria and reporting "high" symptom severity on the Impact of Events Scale	Prevalence of PTSD: 4.9%, Correlates of PTSD prevalence: Acute Stress Disorder in first week after incident
		m/s Estonia Car Ferry Disaster, E	·
Adults survivors of the disaster; N=42; (111)**	3 months	Post Traumatic Symptom Scale (using cutoff value of 20) and the Impact of Events Scale (using cutoff of 3)	Prevalence of PTSD: 64.3% using both instruments; Correlates of PTSD symptoms: loss of a spouse, weaker coping abilities, symptoms of peritraumatic dissociation
		1994 N149 Supertanker Expl	osion—October, 1994
Workers (257 males, 12 females) differentially exposed to the disaster; N=270; (105)**	6.5 months	Impact of Events scale; caseness required scoring ≥19	Prevalence of PTSD: 41%; Correlates of PTSD symptoms: older age, experiencing accidents at the shipyard before the explosion, being in less exposed group, described families' reactions as "impressed", survivor guilt, less social support
		1994 Plane Crash in Coventry, l	UK—December 21, 1994
Directly and indirectly exposed residents; N=82; (198)**	6 months	15-item Impact of Events Scale	Correlates of PTSD symptoms: being in directly exposed group, not receiving professional help (among directly exposed), worrying about safety (among directly exposed), present feelings when heard planes flying over (among indirectly exposed)
		1995 Oklahoma City Bomb	ning—April 19, 1995
Oklahoma City public school students; N=3218; (96)**	7 weeks	Impact of Events Scale- Revised	Correlates of PTSD symptoms: higher proportion of bombing-related television viewing in month after attack, reporting a sibling or parent killed, female gender
Students from 11 public middle schools in Oklahoma City; N=2381; (99)**	7 weeks	22 items adapted from the Impact of Events Scale- Revised	Correlates of PTSD symptoms: television exposure (among students with no physical or emotional exposure)
Exposed adults from Oklahoma City (n=1010) and unexposed controls from Indianapolis (n=750); N=1760; (94)**	3-4 months	6 questions about PTSD symptoms	Prevalence of PTSD symptoms: in Oklahoma City, 76.1% reported at least one PTSD symptom (compared to 62.7% in Indianapolis) and 43.1% reported at least 4 PTSD symptoms (compared to 32.1% in Indianapolis)
Adults from Oklahoma City seeking mental health assistance; N=85; (131)**	6 months	Impact of Events Scale- Revised	Correlates of PTSD symptoms: being injured, feeling nervous or afraid, perceived life endangerment, being upset by others' behaviors, reporting that counseling helped, reporting that work helped
Exposed children who reported the death of a friend or acquaintance (n=27) and unexposed matched children (n=27); N=54; (97)**	8-10 months	22 items adapted from the Impact of Events Scale- Revised	The mean PTSD symptom score for the group that lost a friend was significantly higher than for the group that lost an acquaintance; however, neither the group who lost a friend nor the group who lost an acquaintance scored significantly higher than the unexposed group
Adults survivors of the bombing	6 months and	Diagnostic Interview	Prevalence of PTSD at 6 months: 34.3%; Onset: Among PTSD cases, 74%

selected from a registry; N=182 at 6 months, 141 at 1 year; (10)†	1 year	Schedule/Disaster Supplement, based on DSM-III-R criteria	reported same day onset, 18% within the first week, and 4% within the first month; <i>Correlates of PTSD prevalence at baseline</i> : female gender, predisaster psychiatric disorder, injury, injury or death of family member or friend; <i>Course</i> : 89% of persons with PTSD since the bombing were still symptomatic at 6 months
Adult Asian and Middle Eastern immigrants living in Oklahoma City; N=45; (133)**	1.5-2 years	21 Items from the Posttraumatic Stress Scale	Correlates of PTSD symptoms: PTSD symptoms from prior trauma, older current age, younger age at time of prior trauma
Sixth grade public school students from a community 100 miles from Oklahoma City; N=69; (98)**	2 years	22 items adapted from the Impact of Events Scale- Revised	Prevalence of PTSD: 44% using least stringent criteria, 4% using most stringent criteria; Correlates of PTSD symptoms: difficulty functioning, exposure to TV/radio coverage of bombing (current and in aftermath), proportion of reading devoted to bombing-related material (current and in aftermath), having a friend who knew someone injured or killed
Adult survivors of the bombing; N=494; (224)**	1.5-3 years	PTSD measured using DSM- IV criteria	Prevalence of PTSD: 4%
Firefighters involved in rescue and recovery (n=181) and primary victims (n=88); N=269; (89)**	34 months	Diagnostic Interview Schedule	Prevalence of PTSD: prevalence among firefighters was lower than among primary victims (13% vs. 23%); Correlates of PTSD prevalence among firefighters: time spent at the bombing site, time spent in "the pit", pre-disaster PTSD diagnosis
Firefighters involved in rescue and recovery; N=181; (122)**	34 months	Diagnostic Interview Schedule for DSM-III-R	Correlates of PTSD prevalence: functional impairment, less pride in job, less positive job satisfaction, reporting more negative effects of the bombing on job satisfaction, less likely to get along with their boss and coworkers, changes in relationships
			Paris, France—December 3, 1995
Directly (taken hostage) and indirectly exposed children (ages 6-10); N=47; (102)†	2, 4, 7, and 18 months	Diagnoses using Kiddie- SADS-L according to DSM- IV criteria 1996 Train Collision Disaster,	Course of PTSD among exposed: 4% at 4 months, 12% at 7 months, 5% at 18 months; Course of PTSD among indirectly exposed: 10% at 4 months, 6% at 7 months, 0% at 18 months UK—March 8, 1996
Adults residents of the surrounding community present during incident; N=49; (93)**	7 months	Impact of Events Scale	Prevalence of high PTSD symptom severity: 57%; Correlates of PTSD symptoms: awake watching TV, having refreshments, writing or entertaining friends at time of incident; heard train approaching, heard very loud "bang", or feeling vibration at time of impact; shocked and terrified feelings directly after incident; feeling anxious or worried, nervous when a train passed, angry about what happened at interview
Adult residents from households 30 to 100 feet from the crash; N=66; (170)**	7 months	Impact of Events Scale	Prevalence of high PTSD symptom severity: 51%; Correlates of intrusion and avoidance symptoms: neuroticism
		1996 TWA Flight 800 Crash, Ne	ew York—July 17, 1996
Exposed Navy divers (n=66) who	3-6 months	Impact of Events Scale	Prevalence of PTSD symptoms: there were no significant differences between

participated in recovery and unexposed divers (n=59); N=125; (225)**

PTSD symptom scores when comparing exposed and unexposed divers

(225)			
19	996 Ground Slump	Industrial Disaster, Briey Region,	France—October 14 and November 18, 1996
Exposed, indirectly exposed, and unexposed children; N=127; (57)**	6-7 months	Impact of Events Scale; caseness determined using cutoff score of 42 1996 Subway Bombing, Paris, Fi	Correlates of PTSD symptoms: being in exposed group (vs. indirectly or unexposed group), lower socioeconomic status, younger age, higher levels of parental distress rance—December 1996
Victims of the bomb attack; N=32; (135)†	6 and 32 months	Questionnaire of Posttraumatic Stress and the Impact of Events Scale; caseness based on DSM-III-R criteria & American Embassy Bombing, Na	Correlates of higher PTSD symptoms at 32 months: physical injuries, non-managerial employment position, psychometric drug use before the incident; Course of current PTSD: prevalence decreased from 39% at 6 months to 25% at 32 months nirobi, Kenya—August 7, 1998
Nairobi school children exposed to the bombing; N=562; (40)**	8-14 months	22-item Posttraumatic Stress Scale 1998 Omagh Bombing, Northern I	Correlates of PTSD symptoms: more severe peri-traumatic reaction, PTSD symptoms relating to other prior traumatic experiences reland—August 15, 1998
Employees of the local health service; N=1064; (116)**	4 months	Posttraumatic Stress Disorder Symptom Scale, based on DSM-III-R criteria	Correlates of PTSD symptoms: involvement in the bombing, involvement in both a civilian and professional capacity, previous experiences of trauma, past emotional difficulties
Doctors working in the aftermath of the bombing; N=17 at 4 and 17 months; (88)†	4 and 17 months	PTSD Symptom Scale, based on DSM-IV criteria	Correlates of PTSD symptoms: younger age; Course: prevalence of PTSD among doctors increased from 6% at 4 months to 12% at 17 months
	1998	Swissair Flight 111 Airline Crash,	Canada—September 2, 1998
Recovery and instrumental volunteer responders; N=13; (114)**	3 years	Modified PTSD Symptom Scale, based on DSM-IV criteria	Prevalence of current PTSD at 4 months: 46%; Correlates of PTSD prevalence: exposure to human remains; Correlates of greater PTSD severity: use of alcohol to cope, use of alcohol to forget
Volunteer disaster workers; N=13; (113)**	3 years	Modified PTSD Symptom Scale, based on DSM-IV criteria	Correlates of PTSD prevalence: exposure to human remains, more time performing recovery, behavioral disengagement coping, restraint coping, alcohol-drug disengagement coping, suppression of competing activities coping
		2001 Train Collision Disaster, Be	elgium—March 27, 2001
Residents of adjacent town exposed to the train collision; N=29; (226)†	1 and 3.5 months	Posttraumatic Symptom Scale; PTSD defined according to DSM-IV criteria	Course: prevalence decreased from 28% at 1 month to 24% at 3.5 months
:	September 11, 200	1 Terrorist Attacks, New York City	and Washington, DC—September 11, 2001
African-American undergraduates; N=219; (28)**	2-3 days	Modified version of the PTSD Checklist-Civilian Version; caseness required scoring at least 50 out of 85	Prevalence of PTSD: 5%; Correlates of PTSD symptoms: having parents not currently together, later college year

Nationally representative sample; N=560 adults, 170 children; (31)**	3-5 days	For adults, 5 questions from the PTSD checklist; for children, 5 questions from the Diagnostic Interview Schedule for Children, Version 4;	Prevalence of substantial stress reaction: 44% among adults, 35% among children; Correlates of PTSD symptoms among adults: female gender, minority status, prior emotional or mental health problems, proximity to World Trade Center, northeast region residence, more hours of TV coverage viewed on day of attacks; Correlates of PTSD symptoms among children: female gender
Patients from 3 community-based outpatient psychiatric and primary care practices in Rhode Island; N=308; (23)**	2-3 weeks	Modified Posttraumatic Diagnostic Scale	Prevalence of PTSD: 28%; Correlates of PTSD prevalence: psychiatric (vs. medical patient) (OR = 3.17), feeling that the attacks worsened preexisting condition, wanting to speak to clinician about attacks, scheduling appointment to talk about attacks
Random sample of Manhattan adults living south of 110 th street; N=988; (24)**	5-8 weeks	National Women's Study PTSD questionnaire	Prevalence of PTSD: 7.5%; Correlates of PTSD prevalence: Hispanic ethnicity (OR = 2.6), experiencing ≥2 stressors in the 12 months before Sept. 11 (OR = 5.5), panic attack (OR = 7.6), residence south of Canal St. (OR = 2.9), loss of possessions due to the attacks (OR = 5.6)
Random sample of Manhattan adults living south of 110 th street; N=988; (29)**	5-8 weeks	National Women's Study PTSD questionnaire	Correlates of PTSD prevalence: after adjusting for potential confounders, the association between female gender and PTSD diminished from OR = 2.2 to OR = 1.2
Manhattan adults living south of 110 th street; N=988; (123)**	5-8 weeks	National Women's Study PTSD questionnaire	Correlates of PTSD prevalence: reporting seeing people falling from the World Trade Center more than 7 times on television (OR = 3.1)
Nationally representative adult sample with oversample of several metropolitan areas; N=2273; (30)**	1-2 months	Specific stressor version of PTSD Checklist; caseness required scoring ≥50	Prevalence of PTSD: 11.2% among NYC residents, 4.3% nationally; Correlates of PTSD prevalence: being in NYC metro area on Sept. 11, TV coverage viewed per day, graphic Sept. 11 events viewed on TV; Correlates of PTSD symptoms (NYC sample only): younger age, female gender, being in the WTC on Sept. 11, hours of TV coverage viewed per day
Sample of Vietnamese, Cambodian, Laotian, Bosnian, and Somalian refugees with PTSD from a US psychiatric program; N=129; (27)**	Within 2 months	Not reported	Refugees with PTSD showed a strong reaction to the events of Sept. 11, including significant increases in the frequency of recurrent nightmares and intrusive memories, suggesting that the events of Sept. 11 may have reactivated traumatic memories.
NYC parents and their children; N=434; (22)**	4 months	Posttraumatic Stress Disorder Reaction Index—Child Revision	Prevalence of severe to very severe PTSD symptomatology: 18% of children; Correlates of severe to very severe PTSD symptomatology: parental PTSD since Sept. 11 (OR = 4.50), seeing parents cry (OR = 3.19), disaster images on television (OR = 3.18), living in Manhattan
Nationally representative adult sample of persons residing outside of New York City; N=2729 at 9-23 days, 933 at 2 months, 787 at 6 months; (32)†	9-23 days and; 2 and 6 months	Impact of Events Scale- Revised	Correlates of PTSD symptoms during follow-up: female gender (OR = 1.42), prior mental disorder (OR = 1.60), behavioral disengagement (OR = 1.68), denial coping (OR = 1.33), sought social support (OR = 1.47), self-blame (OR = 1.66), self-distraction coping (OR = 1.31), acceptance (OR = 0.71); Course: prevalence of PTSD decreased from 17.0% at 2 months to 5.8% at 6 months
Random samples of Manhattan residents (at 1 month) and all adults in NYC (at 4 and 6 months); N=988 at 1 month, 2001 at 4	1, 4, and 6, months	National Women's Study PTSD questionnaire	Current PTSD prevalence at 6 months among those with PTSD since Sept. 11: 19.7%; Correlates of PTSD since Sept. 11 at 6 months: marital status, social support, previous lifetime traumatic events, pre-disaster life stressors, post-disaster life stressors, living south of 14 th St., seeing attacks in person, being

months, 1570 at 6 months; (25)§			directly affected; Correlates of current PTSD prevalence at 6 months among those with PTSD since Sept. 11: job loss as results of attacks; Course: current PTSD prevalence in Manhattan decreased from 7.5% at 1 month to 1.7% at 4 months to 0.6% at 6 months
Undergraduate volunteer participants at an urban university in the Midwest; N=305; (21)**	4-6 months	Self-report checklist based on DSM-IV PTSD criteria	Prevalence of PTSD: 5.9%; Correlates of PTSD symptoms: female gender, unmarried marital status, less education, prior history of mental health problems or psychological trauma, viewing television coverage of events, substance use since Sept. 11
Sample of survivors of the Sept. 11 terrorist attack on the Pentagon; N=77; (26)**	7 months	Impact of Events Scale- Revised	Prevalence of PTSD: 14%; Correlates of PTSD prevalence: female gender, emotional response, peri-traumatic dissociation, lower perceived safety, increased alcohol use
		Multiple Disaster Aggr	
Survivors from 21 terrorist attacks that occurred in France between 1982 and 1987; N=254; (127)**	From 4 months to >3 years	11 items based on DSM-III criteria for PTSD	Prevalence of PTSD in total sample: 18.1%; Correlates of PTSD prevalence: being severely injured (30.1% among severely injured, 8.3% among moderately injured, 10.5% among uninjured)
Persons from 2 disasters in Vlaanderen, Belgium: 128 survivors of a ballroom fire (Dec. 1994) and 55 survivors from a motor vehicle accident (Feb. 1996); N=183; (118)**	7-9 months after each disaster	Composite International Diagnostic Interview PTSD module, based on DSM-III- R criteria for PTSD	Incidence of PTSD: 45.9%; Correlates of PTSD incidence: major depression, generalized anxiety disorder, agoraphobia without panic, any disorder other than PTSD
Persons from 2 disasters in Vlaanderen, Belgium: 127 survivors of a ballroom fire (Dec. 1994) and 55 survivors from a motor vehicle accident (Feb. 1996); N=182; (115)**	7-9 months after each disaster	Composite International Diagnostic Interview PTSD module, based on DSM-III- R criteria for PTSD	Correlates of PTSD prevalence: number of adverse life events post-disaster (OR = 1.84), severity of adverse life events post-disaster (OR = 1.18), loss of control (OR = 2.86), female gender (OR = 2.35)
46 hotel employees directly and indirectly exposed to a plane crash (Indianapolis, Oct. 1987); 19 employees from 2 businesses directly and indirectly exposed to a shooting spree (Arkansas, Dec. 1987); 42 survivors of a tornado (Florida, Apr. 1988); N=106; (119)**	4-6 weeks after each disaster	Diagnostic Interview Schedule/Disaster Supplement; caseness required meeting DSM-III criteria	Prevalence of PTSD: 12.3% in total sample (21.7% in plane-hotel crash sample; 11.1% in shooting sample; 2.4% in tornado sample); Correlates of PTSD symptoms: being in the plane-hotel crash sample, directly exposed, more pre-disaster psychiatric diagnoses (among indirectly exposed)
*Timing of assessment(s) after the disa ** Cross-sectional study design. ‡ OR, odds ratio. † Prospective cohort study design. § Serial cross-sectional study design.	ster		

WEB TABLE 3. Key studies assessing post-traumatic stress after natural disasters

Sample; N; (reference no.)	Timeframe*	PTSD Measure	Main Findings
	1963 Vajoi	nt Landslide and Tidal Wave Flood	Disaster, Northeast Italy—October 9, 1963
Survivors still living in the disaster area 36 years later; N=39 (19)**	36 years	Structured Clinical Interview for DSM-IV	Prevalence of PTSD: 26% lifetime, 21% current; Correlates of lifetime PTSD prevalence: direct exposure to the tidal wave (greater exposure); Course: among the 10 persons with lifetime PTSD, 8 displayed a current diagnosis at 36 years
	1	983 Australian Bushfire, Southeas	tern Australia—February 16, 1983
Firefighters highly exposed to the bushfire; N=469 at 4 months, 395 at 11 months, 337 at 29 months; (68)†	4, 11, and 29 months	12-item General Health Questionnaire; a half cutoff was used to determine caseness	Correlates of PTSD prevalence at 4 months: property loss, neuroticism, history of psychological disorder, life events before the fire; Correlates of PTSD prevalence at 11 months: property loss, panic during fire, neuroticism; Correlates of PTSD prevalence at 29 months: neuroticism, history of psychological disorder, life events between 11 and 29 months; Course: 32% prevalence at 4 months, 27% at 11 months, 30% at 29 months
Community sample of firefighters exposed to the bushfire; N=314; (162)†	4, 11, and 29 months	12-item General Health Questionnaire; a half cutoff was used to determine caseness	Prevalence of PTSD anytime during follow-up: 50.2%; Prevalence of acute PTSD: 9.2%; Prevalence of chronic PTSD: 21% (10.2% persistent chronic, 5.7% resolved chronic); Prevalence of delayed-onset PTSD: 19.7%; Correlates of acute PTSD: avoid thinking about problems; Correlates of persistent chronic PTSD: adverse life events before fire, avoid thinking about problems, psychological history, adversity since fire, distress from television reminders of fire, life events between 11 and 29 months; Correlates of resolved chronic PTSD: avoid thinking about problems, psychological history; Correlates of delayed-onset PTSD: distress from television reminders of fire, avoid thinking about problems
Students from 6 primary schools in highly exposed region; N=808 at 2 months; (220)†	2, 8, and 26 months	Parent and teacher symptom scales	Correlates of PTSD symptoms at 26 months: greater exposure, family separation at 2 months, loss of income, maternal fears of future fires, maternal intrusive thoughts, life events during follow-up; Course: symptom levels did not decrease significantly between 8 and 26 months
Exposed firefighters at risk (n=112) and not at risk (n=35) for PTSD; N=147; (189)†	4, 11, 29, and 42 months	Diagnostic Interview Schedule, based on DSM-III criteria	Prevalence of PTSD at 42 months: 34.0% considered definite cases, 13.6% considered borderline cases; Correlates of PTSD: property loss, greater exposure; Correlates of chronic PTSD (PTSD not resolved at 42 months): panic disorder after incident, phobic disorder after incident
Exposed firefighters at risk (n=112) and not at risk (n=35) for PTSD; N=147; (173)† Firefighters at risk for PTSD based on exposure, General Health Questionnaire scores, and Impact of Events Scale; N=50; (172)†	4, 11, 29, and 42 months 4, 8, 11, 29, and 42 months	Diagnostic Interview Schedule, based on DSM-III criteria General Health Questionnaire, Impact of Events Scale, structured interviews, and the Diagnostic Interview	Correlates of PTSD prevalence: use of problem focused coping, use of wishful thinking coping; Correlates of chronic PTSD and delayed onset PTSD (vs. no PTSD): use of wishful thinking coping, use of keeping to self coping Correlate of chronic PTSD at 42 months (vs. recovered cases): difficulty concentrating; Course: 8 of 15 cases of definite or borderline PTSD at 8 months were still symptomatic at 42 months

		1984 Tornadoes, Northeastern N	lorth Carolina—March 28, 1984
Adults survivors from areas damaged by the tornadoes; N=116; (140)**	5 months	Modified version of the Hopkins Symptom Checklist; caseness required meeting DSM-III criteria	Prevalence of acute PTSD: 59%; Correlates of PTSD prevalence: depression and somatization
		1985 Earthquake, Mexico City,	Mexico—September 19, 1985
Adult survivors from 75 shelters in the Mexico City area; N=573; (141)**	Within 10 weeks	A questionnaire based on DSM-III criteria for PTSD	Prevalence of PTSD: 32%
		1985 Flooding and Mud Slides	
Adults from disaster exposed and unexposed communities; N=912; (148)**	2 years	Diagnostic Interview Schedule/Disaster Supplement	Prevalence of PTSD: 3.7% among the exposed compared to 0.7% among the unexposed
Adults from disaster exposed and unexposed communities; N=912; (190)**	2 years	Diagnostic Interview Schedule/Disaster Supplement	Correlates of lifetime PTSD symptoms: pre-disaster levels of lifetime PTSD symptoms, degree of disaster exposure
(100)		1988 Cyclone Bola, New	/ Zealand—March 1988
Adult survivors who were evacuated and/or applied for financial assistance; N=118; (149)**	5 years	Civilian Mississippi Scale; caseness determined using a cutoff score of 96	Prevalence of PTSD: 12%; Correlates of PTSD prevalence: psychological distress as the time of the cyclone, current psychological distress, previous traumatic events, dissatisfaction with post-disaster assistance, dissatisfaction with post-disaster social support
		1988 Yun Nan Earthquake, Yun Nan	
Adults from 3 differentially damaged localities (substantial, moderate, and light damage); N=1295; (142)**	5 months	Diagnostic Interview Schedule, updated to reflect DSM-III- R criteria	Prevalence of PTSD among those meeting GHQ caseness: 23.4% in substantially damaged locality, 13.1% in moderately damaged, 16.3% in the lightly damaged; Estimated disaster-related PTSD in entire sample: 13.5% in substantially damaged locality, 6.2% in moderately damaged, 7.1% in the lightly damaged
Elderly adults and non-elderly adults	1.5 years	1988 Earthquake in Arme Posttraumatic Stress Disorder	Prevalence of severe to very severe PTSD symptomatology: 49.7%; Correlates of
from 3 Armenian cities (2 highly exposed); N=179; (191)**	1.5 years	Reaction Index	PTSD symptoms: greater exposure, loss of a family member
Children from 8 schools in 3 Armenian cities (severely exposed, moderately exposed, and mildly exposed); N=218; (164)**	1.5 years	Posttraumatic Stress Disorder Reaction Index	Prevalence of severe to very severe PTSD symptomatology: 95% in severely exposed city, 71% in moderately exposed city, 26% in mildly exposed city; Correlates of PTSD symptoms: greater exposure, loss of family member, separation anxiety, female gender
Adult employees of the Ministry of Health living in the earthquake region; N=1785; (184)**	2 years	Questionnaire based on DSM- III-R criteria adapted from the Diagnostic Interview Schedule/Disaster Supplement	Prevalence of PTSD: 49.6%; Correlates of PTSD prevalence: protective factors included more education (OR‡ = 0.6), male gender (OR = 0.6), being accompanied during the earthquake (OR = 0.6), making new friends after the earthquake (OR = 0.6); risk factors included greater exposure (OR = 7.0), financial loss (OR = 2.5), death in the family (OR = 2.6)

Exposed children who immediately relocated (n=24), exposed children who remained (n=25), and unexposed controls (n=25); N=74; (192)**	2.5 years	Diagnostic Interview for Children and Adolescents- Revised, based on DSM- III-R criteria	Prevalence of PTSD: 32% in exposed group who remained, 28% in exposed group who relocated, 4% in unexposed group
Exposed mothers who immediately relocated (n=24), exposed mothers who remained (n=25), and unexposed controls (n=25); N=74; (159)**	2.5 years	17 items that asked about each of the 17 DSM-III-R PTSD symptoms	Prevalence of PTSD: 92% in exposed group who remained, 89% in exposed group who relocated, 12% in comparison group
, ()		1989 Hurricane Hugo, South Car	rolina—September 10-25, 1989
Exposed undergraduate psychology students; N=193; (144)**	1 month	Caseness required meeting DSM-III-R criteria	Prevalence of PTSD: 15%; Correlates of PTSD symptoms: resource loss, depression
Exposed preadolescent, early adolescent, and late adolescent children: N=5687; (193)**	3 months	Reaction Index; caseness required meeting DSM-III-R criteria	Correlates of PTSD prevalence: trait anxiety, degree of home damage reported, greater reported hurricane severity, being in an unfamiliar location during hurricane, continued displacement, parental job loss due to hurricane, feeling sad, anxious, worried, scared, alone, or angry during the hurricane
Exposed students from Berkeley County, South Carolina middle and high schools; N=5687; (145)**	3 months	Self-report version of the Reaction Index for Children; caseness required meeting DSM-III-R criteria	Prevalence of PTSD: 5.42%; Correlates of PTSD prevalence: female gender, younger age (pre-adolescent), decrease in school performance
Exposed students from 3 high schools in South Carolina; N=1264; (150)**	1 year	16-item symptom scale based on DSM-III-R criteria	Prevalence of PTSD: 4.0% (1.5% among Black males, 4.7% among Black females, 3.8% among White males, 6.2% among White females); Correlates of PTSD prevalence: greater exposure (OR = 1.26), violent traumatic events in year after incident (OR = 2.62), White ethnicity (OR = 2.03), female gender (OR = 2.17)
Exposed and unexposed adults from South Carolina, North Carolina, and Georgia; N=831; (146)†	12, 18, and 24 months	5-item scale asking about the occurrence of stress symptoms (e.g., easily startled, numb emotions)	Correlates of PTSD symptoms at 12 months: injury, life threat, financial loss, personal loss, scope of impact; Correlates of PTSD symptoms at 18 months: injury, life threat, personal loss, scope of impact; Correlates of PTSD symptoms at 24 months: injury, life threat, financial loss, scope of impact
Ctanford I his consity and arrandontes.			co Bay Area, California—October 17, 1989
Stanford University undergraduates; N=250 at 14 days pre-disaster, 137 at 10 days post-disaster, 41 at 7 weeks; (182)†	14 days pre- disaster; 10 days and 7 weeks post- disaster	Items from the Interview to Diagnose Depression consistent with DSM-III-R criteria for PTSD	Correlates of PTSD symptoms at 10 days: pre-disaster PTSD symptoms, perceived stressors, ruminative responses; Correlates of PTSD symptoms at 7 weeks: pre-disaster PTSD symptoms, ruminative responses; Course: PTSD symptoms increased significantly from 14 days pre-disaster to 10 days post-disaster; symptoms did not decrease significantly between 10 days and 7 weeks post-disaster
Exposed children from 3 Bay Area communities; N=22; (165)**	6-8 months	Posttraumatic Stress Reaction Index for Children	Prevalence of PTSD severity: 27% reported moderate levels of PTSD symptoms and 36% reported mild levels of PTSD symptoms; Correlates of PTSD symptoms: proximity to highly damaged area (section of collapsed highway)
Exposed emergency services	1.5 and 3.5	Impact of Events Scale-	Correlates of PTSD symptoms at 3.5 years: greater peri-traumatic dissociation

personnel who responded to the I- 880 Freeway collapse and unexposed rescue workers and civilians; N=322; (227)†	years	Revised	
o.v, v. ===, (==: /	19	89 Newcastle Farthquake, Newca	stle, Australia—December 28, 1989
Random sample of adult Newcastle residents; N=3007; (147)**	6 months	Impact of Events Scale	Prevalence of PTSD among those exposed to high levels of threat: 18.3%; Correlates of PTSD symptoms: female gender, older age, threat experiences, disruption experiences, avoidance coping
Random sample of elderly and non- elderly Newcastle adults; N=3007; (185)**	6 months	Impact of Events Scale	Correlates of PTSD symptoms: female gender, being in elderly group, greater exposure; Correlates of PTSD symptoms among the elderly: female gender, threat and disruption experiences due to the earthquake, use of support services, behavioral and avoidance coping
250 adult immigrants from non- English speaking backgrounds and 250 Australian-born matched controls; N=500; (210)**	6 months	Impact of Events Scale	Correlates of PTSD symptoms: less education, female gender, being in immigrant group, greater exposure to earthquake, avoidance coping, interaction between female gender and immigrant status, interaction between female gender and older age at time of immigration
Random sample of adult Newcastle residents (n=539) with oversample of highly exposed (n=306); N=845; (211)†	27, 50, 86, and 144 weeks	Impact of Events Scale; cut-off score of 25 identified those with a high likelihood of PTSD	Course: between 6 months and 2 years PTSD prevalence decreased from 11% to 3% in the low exposure group, from 19% to 8% in the group experiencing disruption, from 23% to 13% in the group experiencing threat, and from 40% to 19% in the group experiencing both disruption and threat; Correlates of PTSD scores: older age, life events 6 months before incident, being injured, greater initial exposure, life events since incident, ongoing disruptions since incident
Random sample of adult Newcastle residents (n=539) with oversample of highly exposed (n=306); N=845; (169)†	27, 50, 86, and 144 weeks	Impact of Events Scale	Correlates of PTSD symptoms: older age, neuroticism, greater initial exposure, avoidance coping, ongoing disruptions since incident
Survivors with high levels of threat or disruption exposure; N=515; (206)†	27, 50, 86, and 144 weeks	Impact of Events Scale; cut-off score of 25 identified those with a high likelihood of PTSD	Prevalence of PTSD: 18.8% acute PTSD, 14.4% persistent PTSD; Correlates of acute PTSD: emotional problems in 6 months pre-disaster, life events in months 6 pre-disaster, threat earthquake exposure, neuroticism, avoidance coping, life events and ongoing disruptions since the earthquake; Correlates of persistent PTSD: older age, female gender, less education, emotional problems in 6 months pre-disaster, life events in 6 months pre-disaster, threat earthquake exposure, neuroticism, active and avoidance coping, life events and ongoing disruptions since the earthquake
Exposed children and adolescents (n=23) from homes damaged or destroyed and unexposed children (n=10); N=33; (200)**	6 weeks	1990 Wildfire, Southern C Diagnostic Interview for Children and Adolescents- Revised	alifornia—June 27, 1990 Correlates of PTSD symptoms: exposed children and adolescents met significantly more PTSD symptom criteria than controls
Children from families that experienced severe or low loss;	6 weeks	Diagnostic Interview for Children and Adolescents	Prevalence of PTSD: 2 of 13 children who experienced severe levels of loss had PTSD; Correlates of PTSD symptoms: resource loss, number of PTSD

N=22; (59)**			symptoms reported by parent
Displaced tribal and non-tribal adult survivors from 3 resettlement sites; N=351; (228)**	6 years	1991 Mount Pinatubo Volcanic Disa 17-item PTSD Checklist; caseness required meeting DSM-IV criteria for PTSD 1991 Oakland/Berkeley Fire	Prevalence of PTSD: 27.6%
Direct survivors, college students forced to evacuate, and graduate students not forced to evacuate; N=154 at 7-9 months; (203)†	1 month and 7- 9 months	Civilian Version of the Mississippi Scale for Combat-Related PTSD and the Impact of Events Scale	Correlates of PTSD symptoms (Mississippi Scale): dissociative symptoms, recent life stress, symptoms of loss of personal autonomy; <i>Correlates of PTSD symptoms (Impact of Events Scale)</i> : dissociative symptoms, recent life events, symptoms of loss of personal autonomy, contact with the fire, previous life events
Exposed children from an elementary school in southern Dade county, Florida; N=92; (151)†	15 months pre- disaster; 3 and 7 months post- disaster	1992 Hurricane Andrew Posttraumatic Stress Disorder- Reaction Index for Children	Correlates of PTSD symptoms at 3 months: greater exposure, anxiety 15 months pre-disaster, greater student inattentiveness 15 months pre-disaster, worse academic skills 15 months pre-disaster; Correlates of PTSD symptoms at 7 months: greater exposure, African American ethnicity, anxiety 15 months pre-disaster; Correlates of persistent PTSD symptoms: African American ethnicity, anxiety 15 months pre-disaster; Course of severe to very severe PTSD: prevalence decreased from 13% at 3 months to 3% at 7 months
Exposed college psychology students; N=220; (178)**	1 month	Reaction Index	Correlates of PTSD symptoms: being in more highly impacted group, depression
Volunteer subjects from communities damaged by the hurricane; N=180; (199)**	1-4 months	PTSD in past week assessed using DSM-III-R criteria	Prevalence of PTSD: 33%; Correlates of PTSD prevalence: hurricane damage, perceived loss, greater injury, perceived life threat
Children from 3 elementary schools severely affected by the hurricane; N=568; (166)**	3 months	Posttraumatic Stress Disorder Reaction Index for Children, based on DSM- III-R criteria	Prevalence of severe to very severe PTSD symptomatology: 30%; Correlates of PTSD symptoms: perceived life threat, number of life threatening experiences, loss-disruption experiences, female gender, less social support from teachers, less social support from classmates, blame and anger coping, social withdrawal, positive coping
Children in grades from 3 elementary schools in southern Dade county Florida exposed to the hurricane; N=442; (187)†	3, 7, and 10 months	Posttraumatic Stress Disorder Reaction Index for Children, based on DSM- III-R criteria	Correlates of PTSD symptoms at 10 months: perceived life threat, life threatening experiences, loss/disruption events in 10 months post-disaster, African American ethnicity, Hispanic ethnicity, less social support from teacher, blame and anger coping; Correlates of persistent PTSD symptoms: loss and disruption post-disaster, African American ethnicity, Hispanic ethnicity, intervening life events, low levels of parental social support; Correlates of persistent PTSD symptoms between 3 and 10 months: Course: prevalence decreased from 39.1% at 3 months to 24.0% at 7 months to 18.1% at 10 months
Exposed adolescent residents from Dade County, Florida; N=400; (152)**	6 months	Diagnostic Interview Schedule, based on DSM-III-R criteria	Prevalence of PTSD: 9.2% among females, 2.9% among males; Correlates of PTSD prevalence: older age (OR = 1.41), undesirable life events after the incident (OR = 1.38)
Exposed residents (134 Latino, 135	6 months	30-item Revised Civilian	Prevalence of PTSD: 24% in total sample (38% among Spanish-preferring Latinos,

Black, 135 White) from 5 neighborhoods in Dade county, Florida; N=404; (153)**	C 40 manths	Mississippi Scale; caseness required meeting DSM-IV criteria for PTSD	23% among African Americans, 19% among English-preferring Latinos, 15% among Whites); ethnic differences in PTSD prevalence remained in the highly traumatized groups after controlling for levels of personal and neighborhood trauma
Residents from areas most severely affected; N=61; (194)**	6-12 months	Structured Clinical Interview for DSM-III-R	Prevalence of new-onset PTSD: 36%; Correlates of PTSD prevalence: severe damage to home
Adult survivors involved in rebuilding; N=96; (204)†	1-4 and 9-12 months	17 questions that asked about the frequency of DSM-III-R PTSD symptoms	Correlates of PTSD symptoms at 9 months: intensity of disruption over past month of repair phase
Highly exposed students from an elementary school in the hurricane pathway and mildly exposed controls; N=106 at 8 weeks; (201)†	8 weeks for total sample; 32 weeks for highly exposed	Posttraumatic Stress Disorder Reaction Index, based on DSM-III-R criteria	Prevalence of severe to very severe PTSD symptomatology at 8 weeks: 56.4% among highly exposed compared to 38.6% among mildly exposed; Course: prevalence of severe to very severe PTSD symptomatology among the highly exposed decreased from 55.3% at 8 weeks to 38.3% 32 weeks
Exposed elementary school students; N=30; (229)†	2, 8, and 21 months	Posttraumatic Stress Disorder Reaction Index, based on DSM-III-R criteria	Course: Between 2 and 8 months, PTSD symptoms improved in 30% of the sample, showed no change in 53%, and worsened in 17%; between 2 months and 21 months after the incident, 46.7% improved, 46.7% showed no change, and 6.6% worsened
Exposed residents of Dade County, Florida; N=404 at 6 months, 241 at 28-30 months; (207)†	6 and 28-30 months	30-item Revised Civilian Mississippi Scale; caseness required meeting DSM-IV criteria for PTSD	Correlates of avoidance symptoms at 6 months: minority status, life events post-disaster, less self-esteem, less perceived control; Correlates of avoidance symptoms at 28-30 months: avoidance scores at 6 months, female gender, past year trauma, acculturative stress, less self-esteem, less social embeddedness; Correlates of intrusion symptoms at 6 months: female gender, minority status, Latino ethnicity, younger age, being married, threat to life, life events post-disaster; Correlates of intrusion symptoms at 28-30 months: intrusion scores at 6 months, less self-esteem, life-events post-disaster; Correlates of arousal symptoms at 6 months: female gender, African American ethnicity, property damage, life events post-disaster; Correlates of arousal symptoms at 28-30 months: arousal scores at 6 months, injury, life events post-disaster, less self-esteem; Course: PTSD prevalence increased from 25.7% at 6 months to 28.6% at 28-30 months; symptoms of intrusion and arousal declined significantly over follow-up, but symptoms of avoidance increased
Population survey of US military personnel and spouses exposed to all 5 typhoons; N=320; (154)**	8 months after 1 st typhoon	92 Typhoons in US Pacific, Guam- Validated symptom scale and the Impact of Events Scale; caseness required meeting DSM-IV criteria and scoring >19 on the IES	—August 28, 1992-November 1992 Prevalence of PTSD: 5.9%; Correlates of PTSD prevalence: diagnosis of Acute Stress Disorder at 1 week after first typhoon

Exposed adults residents who suffered material loss in the flood;	Not reported	1993 Floods, Perth, Scot Questionnaire asking about the frequency of DSM-III-R	land—January 17, 1993 Prevalence of PTSD: 25%; Correlates of PTSD symptoms: emotion-focused coping, thought suppression coping
N=44; (155)**		PTSD symptoms	ant Florida 1002
Exposed adults from Des Moines and	4 months	1993 Great Midwe 6 modified questions from the	Correlates of PTSD symptoms: more anxiety after the flood, temporary or
West Des Moines; N=106; (208)**	4 months	University of Michigan version of the Composite International Diagnostic Interview	permanent loss of employment because of the flood, renting property, lower likelihood of identifying positive outcomes
Exposed St. Louis area residents;	2-7 months	Diagnostic Interview	Prevalence of flood-related PTSD: 22%; Correlates of PTSD prevalence: prior
N=162; (156)**		Schedule/Disaster Supplement, based on DSM-III-R criteria	psychiatric history, non-PTSD post-disaster disorder
		1993 Marathwada Earthquake, We	estern India—September 30, 1993
Adults from 23 households within 15 km of the epicenter; N=56; (157)**	1 month	PTSD diagnosis according to DSM-III-R criteria	Prevalence of PTSD: 23%
, , , , , , , , , , , , , , , , , , , ,		1994 Northridge Earthquake, Los	Angeles Area—January 17, 1994
Survivors from the area of greatest	3 months	Diagnostic Interview	Prevalence of PTSD: 13%; Correlates of PTSD prevalence: history of psychiatric
property damage; N=130; (177)**		Schedule/Disaster Supplement, based on DSM-III criteria	disorder (OR = 5.30), female gender (OR = 6.49), post-disaster non-PTSD psychiatric disorder (OR = 6.24)
Children from a family-genetic study diagnosed with a preexisting psychopathology; N=63; (179)**	1 year	Children's Posttraumatic Stress Disorder Reaction Index	Correlates of PTSD symptoms: preexisting anxiety disorder, use of cognitive coping, current general anxiety, current depression, social adjustment problems with friends
psychopathology, 14-03, (179)		1994 Avalanche, Non	
Norwegian soldiers buried by the	2 weeks and 4	Impact of Events Scale and	Correlates of PTSD symptoms at 2 weeks: being in buried, involvement in rescue,
avalanche, involved in the rescue effort, or unexposed; N=133 at 2 weeks, 94 at 4 months; (175)†	months	the Posttraumatic Stress Scale-10; caseness required a PTSS-10 score ≥5	lower coping scores; <i>Course</i> : prevalence of PTSD in the total sample decreased from 6% at 2 weeks to 3% at 4 months; (prevalence increased from 9% to 12% among those buried, decreased from 10% to 0% among rescuers, and decreased from 4% to 2% among the unexposed)
		1995 Hanshin-Awaji Earthquai	
Elderly adults and non-elderly adults from a Shelter in Kobe; N=142 at 3 weeks, 123 at 8 weeks; (213)§	3 and 8 weeks	10 items from the Posttraumatic Symptoms Scale	Course: between 3 and 8 weeks, the average number of symptoms experienced did not decrease significantly among non-elderly adults, but did decrease significantly among elderly adults
Adult employees of 5 manufacturing companies in the exposed area; N=380; (188)**	13-15 months	17-item questionnaire based on DSM-IV criteria	Correlates of PTSD symptoms: poor perceived physical health, earthquake-related life events, no emotional support network (males only), older age (males only), being unmarried (males only)
Male workers employed by companies located in the exposed area; N=155; (195)**	14-18 months	19-item questionnaire based on DSM criteria; caseness required scoring ≥9	Prevalence of PTSD: 9.0%; Correlates of PTSD symptoms: living in areas of higher seismic intensity

Random selection of male residents of the town closest to the epicenter; N=108; (205)**	20 months	19-item questionnaire based on DSM-IV criteria for PTSD	Correlates of PTSD symptoms: reporting worse lifestyle/health practices after the earthquake
Exposed adult residents; N=67; (174)**	4-5 months	1995 Hurricane Opal, F. Impact of Events	Correlates of PTSD symptoms: coping self efficacy; coping self efficacy mediated the relation between loss of resources and PTSD symptoms
Residents from rural/agricultural areas devastated by the floods; N=131 at 1-3 months, 74 at 1 year; (230)†	1-3 months and 1 year	1997 Floods, Central Valley, No 17-item PTSD Checklist; PTSD caseness required meeting DSM-IV criteria	orthern California—Early 1997 Prevalence of PTSD at 1 year. 10%; Correlates of PTSD symptoms: greater exposure to loss, acute stress disorder symptoms between 1 and 3 months
Adults from a highly exposed and a moderately exposed village; N=181 at 3 months, 157 at 9 months; (215)†	1998 Zha 3 and 9 months	Ingbei-Shangyi Earthquake, North DSM-IV diagnoses made using an instrument based on the Composite International Diagnostic Interview PTSD module 1998 Sarno Landslide, Sou	Hebei Province, China—January 10, 1998 Prevalence of current PTSD at 3 months: 14.4% (22.7% among moderately exposed compared to 8.5% among highly exposed); Prevalence of current PTSD at 9 months: 17.8% (22.7% among moderately exposed compared to 14.3% among highly exposed; Course: prevalence increased between 3 and 9 months withern Italy—May 5, 1998
Exposed adults (n=272) from the most severely affected area and unexposed controls (n=72); N=344; (180)**	1 year	Self-Rating Scale for PTSD, derived from Structured Interview for PTSD; caseness required meeting DSM-IV criteria	Prevalence of PTSD: 27.6% among exposed compared to 1.4% among unexposed; Correlates of PTSD prevalence: physical injury, injuries suffered by family members, family problems, leaving the house in the past 3 months, depressive symptoms, anxiety symptoms
Adolescents from 3 public schools in 3 differentially exposed cities; N=156; (143)**	6 months	1998 Hurricane Mitch, Nic Child Posttraumatic Stress Disorder Reaction Index; casesness required scoring ≥40	Prevalence of PTSD: 90% in the most devastated city and 14% in the least devastated city; Correlates of PTSD symptoms: being in more devastated city, objective hurricane related experiences, subjective hurricane related experiences, current thoughts of revenge
Consecutive exposed adult patients from 4 primary health centers; N=496; (183)†	6 and 12 months	Harvard Trauma Questionnaire; caseness defined using a cutoff of 50/51	Prevalence of PTSD at 6 months: 5.9%; Correlates of PTSD symptoms: death or injury of relative, destruction of house, female gender, previous mental health problems, illiteracy, never married; Course: 12 of 23 (52%) PTSD cases identified at 6 months and followed-up at 12 months still had PTSD
Survivors who consecutively sought psychiatric service; N=525; (176)**	1 month	1999 Chi-Chi Earthquake, Ta 17-item checklist based on DSM-IV criteria for PTSD	Niwan—September 21, 1999 Correlates of reexperiencing PTSD symptoms: female gender, injury of relatives, nervous traits, obsessive traits; Correlates of avoidance PTSD symptoms: nervous traits, obsessive traits; Correlates of arousal PTSD symptoms: female gender, older age, destruction of property, nervous traits, obsessive traits
Students from 2 junior high schools who remained in the worst affected area, Chungliao; N=323; (168)**	6 weeks	Children's Interview for Psychiatric Syndromes based on DSM-IV criteria	Prevalence of PTSD: 21.7%; Correlates of PTSD prevalence: physical injury (OR = 2.35), death of a close family member with whom the student lived (OR = 5.58)

Survivors from Pu-Li, one of the most damaged towns, screened at a local hospital; N=663; (231)**	3-4 months	17-item checklist based on DSM-IV PTSD criteria; caseness required greater than 2 reexperiencing, 4 avoidance, and 3 arousal symptoms	Prevalence of PTSD: 11.3%; Correlates of PTSD prevalence: female gender (OR = 2.69), older age (OR = 7.83), severe destruction to home (OR = 2.93)
Male professional firefighters involved in rescue work following the collapse of a building in Taipei City; N=84; (163)**	5 months	Impact of Events Scale; caseness required scoring ≥26	Prevalence of PTSD: 21.4%; Correlates of PTSD prevalence: longer job experience (OR = 6.87), distancing coping (OR = 2.20), use of escapeavoidance coping (OR = 1.43), positive reappraisal coping (protective) (OR = 0.59)
			key—August 17, 1999 and November 12, 1999
Exposed school-aged children (n=202) displaced to a prefabricated village and unexposed children (n=101); N=303; (196)**	4-5 months	Child Version of the Posttraumatic Stress Reaction Index	Correlates of PTSD symptoms: being in exposed group, lack of sleep in days after earthquake, past traumatic experiences, personal losses, traumatic dissociation and grief
Adult survivors from 3 "tent cities" and 2 prefabricated housing sites in the disaster region; N=1000; (197)**	3-9 months in camps; 7- 14 months in housing sites	17-item Traumatic Stress Symptom Checklist based on DSM-IV criteria; caseness determined using cutoff of 25	Prevalence of PTSD: 43%; Correlates of PTSD symptoms: fear during the earthquake, female gender, trapped under rubble, death of a family member, past psychiatric illness, participated in rescue work, longer time between earthquake and assessment, less education
35 randomly selected families (30 fathers, 35 mothers, 49 children) living in a tent city 30 km from the epicenter of the 2 nd earthquake; N=114; (209)**	6 months after 2 nd quake	For children, the Child Posttraumatic Stress Disorder Reaction Index; for adults, the 17-item Self- rating Scale for Posttraumatic Stress Disorder, based on DSM- III-R criteria	Prevalence of PTSD among parents: 44.1% among mothers, 34.5% among fathers; Correlates of PTSD symptoms among children: PTSD in father, female gender, paternal depression symptoms
Consecutive self-referred adult survivors from a community center for psychological treatment; N=1027; (158)**	14 months	17-item Traumatic Stress Symptom Checklist based on DSM-IV criteria; caseness determined using cutoff of 25	Prevalence of PTSD: 63%; Correlates of PTSD symptoms: fear during the earthquake, female gender, less education, loss of friends or neighbors, shorter time between earthquake and assessment, material loss
Adult survivors from 3 prefabricated housing sites within 10 km of the epicenter; N=568; (219)**	20 months	17-item Traumatic Stress Symptom Checklist based on DSM-IV criteria; caseness determined using cutoff of 25	Prevalence of PTSD: 39%; Correlates of PTSD symptoms: fear during the earthquake, female gender, older age, participation in rescue work, loss of friends or neighbors, history of psychiatric illness
Adult survivors from randomly sample households in Bolu (45 km from	18 months after 2 nd	17-item Traumatic Stress Symptom Checklist based	Prevalence of PTSD: prevalence was 41.9% in Duzce (the epicenter), 18.6% in Bolu (45 km from the epicenter); Correlates of PTSD prevalence: fear during

the 2 nd earthquake) and Duzce (at the epicenter); N=430; (214)**	quake	on DSM-IV criteria; caseness determined using cutoff of 25	the earthquake, loss of friends and neighbors, female gender, less education, living in rented accommodation
Fourth grade students from a North Carolina public school destroyed by the hurricane; N=150; (167)**	6 months	1999 Hurricane Floyd Child Version of the Posttraumatic Stress Reaction Index	Prevalence of severe to very severe PTSD symptomatology: 34.6%; Correlates of severe to very severe PTSD symptomatology: female gender (OR = 2.7), flooding of home (OR = 3.0); Correlates of PTSD symptoms: social withdrawal coping, self-criticism coping, blaming others coping, problem solving coping, emotional regulation coping
Bereaved survivors from 109 households from 2 townships; N=120; (171)**	2 months	Mini-International Neuropsychiatric Interview, with diagnosis according to DSM-IV criteria	untry, Taiwan—September 21, 1999 Prevalence of PTSD: 37%; Correlates of PTSD prevalence: number of psychosocial stressors (OR = 3.03), initial feelings of guilt (OR = 3.69)
Exposed adults (n=65) from the devastated area and unexposed adults (n=65); N=130; (160)**	3 months	1999 Orissa Supercyclone, C Clinical interviews with diagnosis according to DSM-IV criteria	Prevalence of PTSD: 89% among exposed compared to 11% among unexposed
Probability sample of exposed (n=52) and unexposed (n=29) adults; N=81; (161)**	3 months	Harvard Trauma Questionnaire, based on DSM-III-R criteria; caseness required HTQ scores >2	eland—June 17, 2000 and June 21, 2000 Prevalence of PTSD: 24% in the exposed region compared to 0% in the unexposed region; Correlates of PTSD symptoms: anxiety caused by small tremors, anxiety about a major new earthquake, emotional coping, weaker ability to express feelings and thoughts
Adult evacuees from the Island; N=231; (232)**	10 months	2000 Miyake Island Volcan Impact of Events Scale- Revised	Correlates of PTSD symptoms: help-seeking from physicians, help seeking from counselors, help seeking from social workers
288 adults from Coalinga, California exposed to an earthquake (May 1983), 116 adults from a housing project in Santiago, Chile exposed to an earthquake (March 1985), and 3131 unexposed controls; N=3535; (186)**	8 months in Santiago; 15 months in Coalinga	Multiple Disaster Ag 13-item instrument; caseness required satisfying DSM-III criteria	ggregate Samples Prevalence of PTSD: 19.3% in Santiago (23.8% among females, 5.9% among males), 2.7% in Coalinga (3.5% among females, 0.8% among males), 2.2% among unexposed (3.1% among females, 1.0% among males)
30 Armenian adults from a city severely exposed to an earthquake (Dec. 1988), 29 adults from a city mildly exposed to the same earthquake, and 19 Armenian adults exposed to	1.5 and 4.5 years	PTSD Reaction Index; casesness required scoring ≥40	Correlates of PTSD symptoms at 1.5 years: being in severely exposed earthquake or political violence group, depressive symptoms, anxiety symptoms; Correlates of PTSD symptoms at 4.5 years: being in severely exposed earthquake or political violence group, PTSD symptoms at 1.5 years, depression symptoms at 1.5 years, anxiety symptoms at 1.5 years, depression symptoms at 4.5 years, anxiety symptoms at 4.5 years; Course: between 1.5 and 4.5 years prevalence

severe political violence (Feb. 1988); N-78; (181)†			decreased from 86.7% to 73.3% among severely exposed earthquake survivors, decreased from 13.8% to 6.9% among mildly exposed earthquake survivors, and increased from 89.5 to 94.7% among survivors of political violence
US sample of adults (135 Whites, 135 Blacks) exposed to Hurricane Andrew (1992) and Mexican sample of adults (n=200) exposed to Hurricane Paulina (1997); N=470; (233)**	6 months	Revised Civilian Mississippi Scale; caseness required meeting DSM-IV criteria for PTSD	Prevalence of PTSD: prevalence was higher among females than males (19.4% vs. 5.9% among US Whites, 23.2% vs. 19.7% among US Blacks, 43.8% vs. 14.4% among Mexicans); Correlates of PTSD symptoms: younger age, less education, greater exposure, female gender, interaction of Mexican ethnicity and female gender; Correlates of lower PTSD symptoms: interaction between African American ethnicity and female gender; Correlates of PTSD prevalence: greater exposure, African American ethnicity, female gender, interaction of Mexican ethnicity and female gender
US sample of adults (n=270) exposed to Hurricane Andrew (1992), Mexican sample of adults (n=200) exposed to Hurricane Paulina (1997), and Polish sample of adults (n=285) exposed to flood (1997); N=755; (212)**	6 months in the US and Mexico; 1 year in Poland	Revised Civilian Mississippi Scale	Correlates of PTSD symptoms in US sample: female gender, greater exposure, middle-aged, age and exposure interaction; Correlates of PTSD symptoms in Mexican sample: female gender, greater exposure, less education, younger age; Correlates of PTSD symptoms in Polish sample: female gender, greater exposure, less education, older age, age and female gender interaction
St. Louis sample of adults exposed or unexposed (n=543) to flooding and/or dioxin contamination (1982) and Puerto Rican sample of adults exposed or unexposed (n=912) to flooding and mudslides (Oct. 1985); N=1455; (202)**	1 year in St. Louis; 2 years in Puerto Rico	Diagnostic Interview Schedule/Disaster Supplement, based on DSM-III criteria	Correlates of PTSD symptoms: exposure to disaster (Puerto Rico sample only), greater support burden (Puerto Rico sample only)
Non-bereaved adults (n=39) either forced to leave their homes after a tornado in Albion, PA (May 1985) or exposed to a flood in Parsons, WV (n=76) (Nov. 1985); N=115 at 4 months; (234)†	4 and 16 months	Impact of Events Scale and the Diagnostic Interview Schedule; caseness for the IES required scoring >19	Course of PTSD incidence (according to DIS): incidence decreased in Parsons from 14.5% at 4 months to 4.5% at 16 months; incidence over the 16 month period in Albion was 21.0%; Course of high levels of PTSD symptomatology (according to the IES): prevalence decreased from 76% at 4 months to 49% at 16 months after the tornado in Albion and from 41% to 24% after the flood in Parsons

^{*}Timing of assessment(s) after the disaster
** Cross-sectional study design.

[‡] OR, odds ratio.

[†] Prospective cohort study design. § Serial cross-sectional study design.

WEB TABLE 4. Summary of studies assessing the prevalence and course of PTSD after disasters

Disaster (reference no.)	Instrument*	T1 [‡]	Prevalence at T1	T2 [‡]	Prevalence at T2	T3 [‡]	Prevalence at T3
		Studies of d	irectly exposed adult sam	ples			_
Human-made or technological disaster	rs						
Aberfan mining disaster; (62)	CIDI, IES	33 years, anytime	46%	32 years, current	29%		
Piper Alpha oil rig disaster; (73)	CAPS, DSM-IV	Acute	73%	10 years, current	21%		
Toxic chemical spill; (108)	IES	3-4 months	14.9%				
Exxon Valdez Oil Spill; (92)	DIS, DSM-III-R	1 year	9.4%				
Exxon Valdez Oil Spill; (70)	SCL-90R	6 years	34% (males), 40% (females)				
Buffalo Creek dam collapse; (125)	SCI, DSM-III-R	2 years	44%	14 years	28%		
Buffalo Creek dam collapse; (75)	SCI, DSM-III	14 years, anytime	59.4%	14 years, current	25%		
Buffalo Creek dam collapse; (126)	SCI, DSM-III-R	17 years, anytime	32%	17 years, current	7%		
M/S Estonia disaster; (111)	PTSS, IES	3 months	64.3%				
Jupiter shipping disaster; (63)	PTSS, DSM-III-R	3 months	35.1%	6 years	8.1%		
Herald of Free Enterprise disaster; (74)	DSM-III-R	Within 2 years	36%				
Airplane crash landing; (136)	SCI, DSM-III	12 days	54%	12 months	10-15%		
Jet fighter crash; (72)	DIS/DS, DSM-III	4-6 weeks	22%				
Bijlmermeer plane crash (132)	DSM-III-R	6 months	26%				
Kegsworth air disaster; (69)	DSM-III-R	6-12 months	40%				
Lockerbie disaster; (78)	DSM-III-R	10-14 months	44%				
Lockerbie disaster; (139)	DSM-III-R	10-14 months	72%	3 years	48%		
Lockerbie disaster; (138)	DSM-III-R	1 year	74%	3 years	16%		
Bus disaster; (41)	PCL, DSM-III-R	8-10 months	33%				
Train collision; (226)	PTSS, DSM-IV	1 month	28%	3.5 months	24%		
Mass shooting episode; (71)	DIS/DS, DSM-III-R	1 month	28.6%				
Mass shooting epidsode; (66)	DIS/DS, DSM-III-R	6-8 weeks	27.2%	13-14 months	17.7%		400/
Mass shooting episode (110)	DIS/DS, DSM-III-R	6-8 weeks	29%	13-14 months	17%	3 years	19%
Mass shooting episode (64)	DIS/DS, DSM-III-R	6-8 weeks	26%	1 year	14%	3 years	18%
Courthouse shooting; (67)	DIS/DS	6-8 weeks	4.1%				
School shooting; (101)	RI; DSM-III-R	8-14 months	3%				
Oklahoma City bombing; (10)	DIS/DS, DSM-III-R	6 months 6 months,	34.3%	32 months,			
Subway bombing; (135)	IES, DSM-III-R	current	39%	current	25%		

September 11 terrorist attacks on Pentagon; (26)	IES-R	7 months	14%		
Oklahoma City bombing (224)	DSM-IV	1.5-3 years	4%		
Oklahoma City bombing; (122)	DIS	34 months	23%		
Sivas religious uprisings(130)	DSM-III-R	Acute	20.3%		
Natural disasters					
Mount Pinatubo volcanic eruption; (228)	PCL, DSM-IV	6 years	27.6%		
Norway avalanche; (175)	IES, PTSS	2 weeks	9%	4 months	12%
Sarno landslide; (180)	DSM-IV	1 year	27.6%		
Vajont landslide and flood; (19)	SCI, DSM-IV	36 years, anytime	26%	26 years, current	21%
Flooding and mud slides; (148)	DIS/DS	2 years	3.7%		
Great Midwest floods; (156)	DIS/DS, DSM-III-R	2-7 months	22%		
Northern California floods; (230)	PCL, DSM-IV	1 year	10%		
North Carolina tornadoes; (140)	HSC, DSM-III	Acute	59%		
Orissa supercyclone; (160)	DSM-IV	3 months	89%		
Pacific typhoons; (154)	IES, DSM-IV	8 months	5.9%		
Cyclone Bola; (149)	MS	5 years	12%		
Hurricane Hugo; (144)	DSM-III-R	1 month	15%		
Hurricane Andrew; (153)	MS-R, DSM-IV	6 months	24%		
Hurricane Andrew; (207)	MS-R, DSM-IV	6 months	25.7%	28-30 months	28.6%
Hurricane Andrew; (194)	SCI, DSM-III-R	6-12 months	36%		
Marathwada earthquake; (157)	DSM-III-R	1 month	23%		
Taiwan earthquake; (171)	DSM-IV	2 months	37%		
Mexico City earthquake; (141)	DSM-III	Within 10 weeks	32%		
Icelandic earthquakes; (161)	HTQ, DSM-III-R	3 months	24%		
Northridge earthquake; (177)	DIS/DS, DSM-III	3 months	13%		
Chi-Chi earthquake; (231)	DSM-IV	3-4 months	11.3%		
Zhangbei-Shangyi earthquake; (215)	DSM-IV	3 months, current	14.4%	9 months, current	17.8%
Turkey earthquakes; (197)	TSSC, DSM-IV	3-14 months	43%		
Newcastle earthquake; (147)	IES	6 months	18.3%		
Hanshin-Awaji earthquake (195)	DSM	14-18 months	9%		
Turkey earthquakes; (214)	TSSC, DSM-IV	18 months	41.9% near, 18.6% far		
Turkey earthquakes; (219)	TSSC, DSM-IV	20 months	39%		
Armenian earthquake (184)	DIS/DS, DSM-III-R	2 years	49.6%		

Studies of rescue, emergency, medical, or clean-up personnel samples

Human-made or technological disasters							
Chernobyl nuclear accident; (85)	DSM-III-R	6-7 years	20%				
Swissair Flight 111 crash; (114)	PTSS, DSM-IV	4 months, current	46%				
US Air Flight 427 crash; (84)	DSM	6 months	4.9%				
Air show midair collision; (82)	IES, DSM-III-R	12 months	12.1%	18 months	7.3%		
USS Iowa Gun Turret Explosion (137)	SCL-90R, IES, DSM- III-R	1 month	11%	4 months	10%	13 months	2%
Building explosion; (80)	DSM-III	5 months	13.9%				
N149 supertanker explosion; (105)	IES	6.5 months	41%				
Omagh bombing; (88)	PTSS, DSM-IV	4 months	6%	17 months 12%			
Oklahoma City bombing; (89)	DIS	34 months	13%				
Natural disasters							
Norway avalanche; (175)	IES, PTSS	2 weeks	10%	4 months	0%		
Australian bushfire; (68)	GHQ	4 months	32%	11 months	27%	29 months	30%
		29 months,		11 months	21 /0	23 1110111113	30 /0
Australian bushfire; (162)	GHQ	anytime	50.2%				
Australian bushfire; (189)	DIS, DSM-III	42 months	34%				
Chi-Chi earthquake; (163)	IES	5 months	21.4%				
	Studies of i	ndirectly exposed	, general population, or co	mmunity samples			
Human-made or technological disasters							
Chernobyl nuclear accident; (91)	GHQ, DSM-III-R	6.5 years	2.4% near, 0.4% far				
Los Angeles civil disturbances (65)	NWS, DSM-III-R	6-8 months, current	4.1%				
School hostage situation; (102)	DSM-IV	4 months	10%	7 months	6%	18 months	0%
September 11 terrorist attacks; (28)	PCL	2-3 days	5%				
September 11 terrorist attacks; (24)	NWS	5-8 weeks	7.5%				
September 11 terrorist attacks; (25)	NWS	1 month, current	7.5%	4 months, current	1.7%	6 months, current	0.6%
September 11 terrorist attacks; (30)	PCL	1-2 months	11.2% in NYC, 4.3% nationally				
September 11 terrorist attacks; (32)	IES-R	2 months	17%	6 months	5.8%		
	Studies of	of directly exposed	children, adolescent, or s	tudent samples			
Human-made or technological disasters							
Buffalo Creek dam collapse; (95)	DSM-III-R	2 years	37%				
Jupiter shipping disaster; (77)	CAPS, DSM-IV	5-8 years, anytime	51.5%				
Industrial fire (134)	PTSS, DSM-III-R	9 months	11.9%				
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1993 World Trade Center bombing;	RI	3 months	27%	9 months	14%		

	(60)							
	Brooklyn Bridge shooting (43)	PTSS, DSM-IV	8 weeks	28%				
	School hostage situation; (102)	DSM-IV	4 months	4%	7 months	12%	18 months	5%
	School shooting; (101)	RI; DSM-III-R	8-14 months	8%				
	Natural disasters							
	Hurricane Hugo; (145)	RI, DSM-III-R	3 months	5.42%				
	Hurricane Andrew; (187)	RI, DSM-III-R	3 months	39.1%	7 months	24%	10 months	18.1%
	Hurricane Mitch; (143)	RI-C	6 months	90% (near), 14% (far)				
	Hurricane Andrew; (152)	DIS, DSM-III-R	6 months	2.9% (males), 9.2% (females)				
	Hurricane Hugo; (150)	DSM-III-R	1 year	4%				
	Chi-Chi earthquake; (168)	DSM-IV	6 weeks	21.7%				
	Armenian earthquake; (192)	DICA-R, DSM-III-R	2.5 years	32%				
		Studie	es of specific popu	lations (i.e. clinical/psychia	tric patients)			
	Human-made or technological disasters							
	September 11 terrorist attacks; (23)	PDS	2-3 weeks	28%				
	Natural disasters							
	Hurricane Mitch; (183)	HTQ	6 months	5.9%				
	Turkey earthquakes; (158)	TSSC, DSM-IV	14 months	63%				
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(60)

^{*}CAPS=Clinician Administered PTSD Scale; CIDI=Composite International Diagnostic Interview; DICA-R=Diagnostic Interview for Children and Adolescents-Revised; DIS=Diagnostic Interview Schedule; DIS/DS=Diagnostic Interview; HSC=Hopkins Symptom Checklist; HTQ=Harvard Trauma Questionnaire; ES=Impact of Events Scale; IES-R=Impact of Events Scale-Revised; MS=Mississippi Scale; MS-R=Mississippi Scale; Revised; NWS=National Women's Study PTSD questionnaire; PCL=PTSD Checklist; PTSS=Posttraumatic Symptom Scale; RI=Reaction Index; RI-C=PTSD Reaction Index-Child Version; SCI=Structured Clinical Interview; SCL=Symptom Checklist; TSSC=Traumatic Stress Symptom Checklist

[‡]T1=time of first assessment after the disaster, T2=time of second assessment after the disaster, T3=time of the third assessment after the disaster; cells left empty indicate that no assessment exists for either the second or third assessment; only studies where there was a clear first assessment of prevalence after the disaster are included in the table.