Rapidly assessing trauma exposure and stress resilience following large-scale disasters

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INTRODUCTION

The psychiatric diagnosis of post-traumatic stress disorder (PTSD) has recently come under increased scrutiny by the psychiatric community. In a recent editorial about PTSD,[1] Nancy C. Andreasen, editor of the *American Journal of Psychiatry*, argued that the American Psychiatric Association should rethink its conceptualization of PTSD in the forthcoming fifth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-V). Andreasen argues that the 1994 conceptualization is misguided. Specifically, it makes PTSD a less meaningful construct than when it was first formalized as a psychiatric diagnosis in 1980. According to Andreasen, since 1994, "the concept of PTSD took off like a rocket, and in ways that had not initially been anticipated" (p. 1321). The current criterion does not adequately account for individual resilience and differences in intensity and immediacy of stressors. One step toward remedying this problem may be the recently developed STRS and Resilience Checklist. (STRS is an acronym for shortness of breath, tremulousness, racing heart, and sweating.) The checklist may help to diminish the rates of postdisaster PTSD by making possible the early identification of PTSD predictors and ranking the screened individuals from those who are at the highest risk to those who are at the lowest risk.

POST-TRAUMATIC STRESS DISORDER AS A DIAGNOSIS

PTSD was made an official psychiatric diagnosis in 1980 based on decades of research, most of which focused on war veterans and on civilians exposed to mass catastrophes.[1] As recently as 1987, the PTSD stressor criterion was rather well-defined in the DSM-III as, "an event that is outside the range of the usual human experience and that would be markedly distressing to almost anyone, e.g., a serious threat to one's life or physical integrity; a serious threat or harm to one's children, spouse, or other close relatives and friends; the 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" (p. 250).[2] This 1987 definition was very similar to the definition in the World Health Organization's International Classification of Disease that is currently used throughout the world.

A well-intentioned (although controversial) revision of the American diagnostic criteria of PTSD was introduced in 1994[3] and is still currently used.[4] Arguably, the 1994 reconceptualization of the PTSD stressor criterion was influenced by the preceding decade of unparalleled peace and prosperity in the United States. An inordinately broad range of non-survival-threatening events was allowed to meet the PTSD stressor criterion. The current stressor criterion does not require triggering

incidents outside the range of usual human experience, such as the destruction of one's community by a natural disaster or a terrorist attack.[4] This resulted in a dramatic drop in the specificity and predictive value of the stressor criterion and in overdiagnosis of PTSD among civilians.[1,5] The current stressor criterion allows for individuals with very low stress resilience to be diagnosed with PTSD following more minor stressors, such as being abruptly fired from a job. If the narrower 1987 definition of the PTSD stressor criterion was maintained, many such individuals would probably be diagnosed more accurately as having an adjustment disorder, which usually requires no management other than reassurance and advice. Even more disturbing, the current criterion allows individuals to be diagnosed with PTSD who would have otherwise been more accurately diagnosed as having borderline personality disorder. Borderline personality disorder has been shown to be only modestly related to PTSD in a recent landmark study.[6] The diminished specificity regarding what constitutes psychological trauma has probably caused the troubling increase in PTSD litigation. Furthermore, the current PTSD stressor criterion fails to provide a mechanism for eventual development of a science-based weighing. Importantly, the STRS and Resilience Checklist does provide such a mechanism.

DEVELOPING AN EVIDENCE-BASED STRESSOR CRITERION OF PTSD FOR THE DSM-V

As noted above, Andreasen[1] and several other leading authorities have argued that the DSM-V, scheduled for publication in 2012, needs a narrower definition of what constitutes psychological trauma. The spirit of the 1987 PTSD stressor criterion should probably be revived. As Charney[7] and other researchers[5,8-13] have argued, a more physiologically based stressor criterion for PTSD is needed to prevent overdiagnosis of PTSD in some populations.

The 1987 stressor criterion may be improved upon in several ways. One such improvement may be that a different weight be given to experiencing a threat to one's own life or to the life of one's children versus witnessing an incident involving a threat to the life of one's in-law or neighbor. Currently, all of these incidents are weighed equally, and all of them meet the PTSD stressor criterion.[4]

THE STRS AND RESILIENCE CHECKLIST

Psychological resilience has only been identified as a major target of research since September 2001.[7] Stress scales in use prior to 9/11 focused on the concept of coping. However, coping has limited overlap with resilience. Resilience is still an evolving concept but includes not only the ability to rapidly "bounce back" in the aftermath of inescapable extreme adversities, such as large-scale natural disasters, terrorist attacks, or warzone exposure, but also the quality of being "unflappable" during the event or even to feel strengthened by it ("post-traumatic growth").[14]

The STRS (shortness of breath, tremulousness, racing heart, sweating) and Resilience Checklist (see Appendix) was developed in the spirit of the post-9/11 reconceptualization of PTSD. This 60-second post-disaster interview was designed to rapidly identify predictors of PTSD in large numbers of people. The scale is in a yes/no/maybe format, which makes it much more user-friendly and keeps the screening time to within 60 seconds. Furthermore, by design the checklist has no cut-off to allow ranking the exposed individuals so they can be easily matched with available resources.

Although the 0 to 4 Likert scale is common in self-report questionnaires, the STRS and Resilience Checklist is conducted by interview. Since it is likely that the screener will be from the same community as the individuals being screened, he or she can take into consideration cultural factors that affect response style, such as unwillingness to admit feeling fearful or helpless. Also, the format allows the screener to make a quick clinical judgment about whether the respondent's "yes" or "no" response is convincing or should be more accurately rated as "maybe" (subthreshold).

The STRS and Resilience Checklist was inspired by Waugh's all-hazards model[15] in that it is suitable for diverse populations exposed to a variety of extreme stressors. For example, the STRS and Resilience Checklist may be used to rapidly screen large numbers of civilians in the aftermath of intentional disasters such as acts of terrorism, in the aftermath of large-scale natural disasters, and in warzone-exposed individuals.

The purpose of the STRS and Resilience Checklist is also to revive the emphasis on those PTSD predictors that are readily observable to first responders (known as PTSD Criterion A). A special emphasis is placed on four observable physiological distress signs: shortness of breath, tremulousness, racing heart, and sweating. Research by Pitman and colleagues[16,17] at the Harvard School of Medicine has shown that, in emergency settings, immediate identification of high PTSD risk followed by immediate referral to a pharmacological health-protection regimen may avert the progression from acute stress disorder to PTSD and possibly to clinical depression.[10,11,16-18] Furthermore, a simple pharmacological intervention for nightmare prevention developed by Raskind and colleagues[19] has been shown to be effective in war veterans, and there is reason to believe that, in selected individuals, it will also be effective for nightmare prevention in the immediate aftermath of a large-scale disaster. Remarkably, both of these interventions involve generic drugs, making them available in developing countries.

FEATURES OF THE STRS AND RESILIENCE CHECKLIST

The major advantage of the checklist is its brevity and immediate availability (optimally, 20 volunteers with 20 minutes of training should be able to screen over 2000 individuals in two hours). Another advantage is that six of the fifteen questions are included to estimate stress resilience, which is not addressed in other rapid stress-severity assessment tools. Another novel aspect is the attempt to estimate low resilience associated with advanced age or medical conditions (e.g., by asking what prescription medications the individual is taking).

COMPARISON WITH OTHER STRESS-RESILIENCE CHECKLISTS

There is one newly validated comprehensive questionnaire for assessing resilience, which is known as the Connor-Davidson Resilience scale (CD-RISC).[20] It includes 25 questions and is scored from 0 to 100, and may be too long for use in the immediate aftermath of very large-scale disasters. Furthermore, the CD-RISC is a self-report questionnaire. These types of questionnaires, even lengthy and well-validated ones, are almost universally inferior compared with face-to-face interviews.

A second but still unpublished research scale, the Deployment Risk and Resilience Inventory (DRRI),[21] is currently under development and has the potential to set the standard for stressor (PTSD Criterion A) assessment. However, the DRRI includes 210 questions and focuses mainly on war zone incidents. For these two reasons, the DRRI may not be suitable for use in the aftermath of a natural disaster or after a terrorist attack against civilians. Finally, unlike the STRS and Resilience Checklist, the DRRI may underemphasize the well-known physiological elements of the acute response to extreme stress (i.e., the human hard-wired autonomic nervous system activation).

LIMITATIONS OF THE STRS AND RESILIENCE CHECKLIST

All screening interviews have their strengths and limitations. It is important to emphasize that the STRS and Resilience Checklist was specifically designed for rapidly screening physically uninjured, disaster-exposed persons. Individuals who are injured obviously deserve, and in the best medical centers currently receive, a much more extensive evaluation. Important recent research by Jehel et al.[22] at the University of Paris as well as by other investigators has documented that painful physical injury is, in itself, a major risk factor for the development of PTSD. The six queries for estimating resilience included in the STRS and Resilience Checklist are especially tentative, since stress resilience is still an evolving construct.[7,14] The brevity and immediate availability of the STRS and Resilience Checklist are its major strengths.

ACKNOWLEDGMENTS

This material is based upon work supported in part by the Office of Research and Development, Medical Research Service, Department of Veterans Affairs, VA Pacific Islands Health Care System, Spark M. Matsunaga Medical Center. Support was also provided by a National Alliance for Research on Schizophrenia and Depression (NARSAD) Independent Investigator Award, and the VA National Center for PTSD. The authors thank Kentaro Hayashi, PhD, for statistical advice, Cheryl Person, MD, for providing insightful critique; and Stacy M. Lenze, Michelle Tsang Mui Chung, Jessica M. Shelton, and Nicole Masukawa for outstanding editorial assistance.

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Appendix

STRS and Resilience Checklist Screening uninjured persons exposed to intentionally caused or large-scale natural disasters (proposed revision of Criterion A of PTSD for DSM-V)				
May I ask you about your reactions during _____	**Yes**	**Sub-threshold**	**No**	
Were you afraid that:				
You would be very seriously injured?	4			Criterion A1
You would be killed?	12			
A close family member would be killed?	6			
Your children would be killed?	12			
Did you feel:				
Intensely fearful?	2			Criterion A2
Helpless?	2			
Horrified?	2			
Did you experience a lot of:				
Shortness of breath?	2			Criterion A3
Trembling, shaking, or buckling knees?	2			
Racing or pounding heart?	4			
Sweaty palms or cold sweat?	2			
Were you on any medications at the time? How many different kinds?				Low resilience
Are you the kind of person that:				
Does not give up when things look hopeless?	-3			High resilience
Tends to bounce back after hardships?	-3			
Knows where to turn for help in times of crisis?	-3			
Can handle a fresh start back home or somewhere new?	-3			
Finally, do you have any blood relatives who may be willing to help you?	-3			
Name, age:			←	**Total score**
Range: From minus 15 to 50 (+ number of medications)				