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Low specificity of symptoms on the post-traumatic stress disorder (PTSD) symptom scale: A comparison of individuals with PTSD, individuals with other anxiety disorders and individuals without psychopathology

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Objectives. Screening for post-traumatic stress disorder (PTSD) takes place in clinical and research settings where diagnostic interviews are not feasible, and typically relies on self-report instruments like the PTSD symptom scale (PSS). Concerns have been raised about the specificity of PTSD symptoms assessed by questionnaires. This study examined whether the PSS distinguishes between patients with PTSD and those with other anxiety disorders or healthy controls.

Design. A between-participants design was employed.

Methods. The participants were 65 individuals with PTSD, 40 individuals with other anxiety disorders and 40 healthy controls. They completed the PSS with respect to a range of stressful life-events.

Results. Using this instrument, 86% of individuals with PTSD and 5% of healthy controls endorsed sufficient symptoms to meet the PTSD diagnosis. This was also the case for 43% of individuals with other anxiety disorders, and self-reported symptoms related to traumatic events and aversive events that are generally not considered traumatic.

Conclusions. The findings suggest that many people screened positive for PTSD may actually be suffering from another anxiety disorder.

Post-traumatic stress disorder (PTSD) was established as a psychiatric diagnosis in the DSM-III (American Psychiatric Association, 1980) and defined as a characteristic symptom pattern following exposure to a traumatic event. This includes persistently

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re-experiencing the event, avoidance of its reminders and numbing, and hyperarousal (American Psychiatric Association, 1994). The establishment of PTSD has brought about an outburst of research and clinical work, but there has been much debate about the validity of the diagnosis. There are at least two main concerns: that traumatic stressors do not form a unique class with their own distinctive effects (e.g. Bowman, 1999; McNally, 2003; Scott & Stradling, 1994; Yehuda & McFarlane, 1995) and that PTSD is not clearly distinct from existing disorders (e.g. Brewin, 2003) or normal trauma-related reactions (Summerfield, 2001).

PTSD as a condition or psychiatric syndrome is unique in that it is thought to result from a particular kind of event, which is defined in the DSM-IV as 'actual or threatened death or serious injury, or a threat to the physical integrity of self and others', which evokes 'intense fear, horror, or helplessness' (p. 429). However, the risk of depression and other anxiety disorders is also increased after such events (e.g. Breslau, 1998; Shalev *et al.*, 1998), and several studies have reported that substantial PTSD symptoms can also arise from relatively minor (ordinary) stressors, such as problems with work, finances and relationships (e.g. Mol *et al.*, 2005; Scott & Stradling, 1994; Solomon & Canino, 1990). Furthermore, several PTSD symptoms overlap with other anxiety disorders and depression (McNally, 1992). Involuntary intrusive memories are often considered its hallmark symptoms (e.g. Jones & Barlow, 1990), but these also occur in panic disorder (Rainey, Aleem, Ortiz *et al.*, 1987), social phobia (Hackmann, Clark, & McManus, 2000) and depression (Reynolds & Brewin, 1999).

In clinical or research settings, self-report PTSD instruments, like the PTSD symptom scale (PSS; Foa, Riggs, Dancu, & Rothbaum, 1993), may be used for rapid screening by deciding whether or not participants meet symptom criteria for PTSD (see e.g. Brewin, Andrews, & Rose, 2000; Ehlers, Mayou, & Bryant, 1998; Engelhard, van den Hout, Arntz, & McNally, 2002; Hoge, Castro, Messer *et al.*, 2004; Schlenger, Caddell, Ebert *et al.*, 2002). It is relevant to know whether a self-report measure of PTSD symptoms, like the PSS, distinguishes between patients with PTSD and those with other anxiety disorders. The prevalence of all other anxiety disorders is more than twice that of PTSD. If other anxiety patients also commonly report symptoms on PTSD instruments, this could imply that many individuals screened positive for PTSD in population research are actually suffering from another anxiety disorder.

The aim of this study was to assess the specificity of self-rated PTSD symptoms on the PSS in a sample of PTSD patients, other anxiety disorder patients and individuals without psychopathology. The groups were matched on background factors that are related to the presence of anxiety disorders (i.e. age, sex and socio-economic factors; see Kessler *et al.*, 1994). We tested whether self-rated PTSD symptoms were common among patients with PTSD and equally uncommon among patients with other anxiety disorders and healthy controls.

Method

Participants

The participants were 65 individuals with PTSD (40 women; 63%), 40 had other anxiety disorders (24 women; 60%) and 40 were healthy controls (24 women; 60%). Current comorbid axis I diagnoses, diagnosed by means of the structured clinical interview for axis I DSM-IV disorders (SCID-I; First, Spitzer, & Williams, 1997), in the PTSD group included 9 major depression, 3 dysthymia, 10 panic disorder, 5 social phobia, 3

obsessive–compulsive disorder, 1 generalized anxiety disorder, 9 specific phobia and 2 hypochondriasis (some PTSD participants had more than one comorbid disorder). The primary diagnoses of patients with other anxiety disorders were 21 panic disorder, 10 social phobia, 6 obsessive–compulsive disorder, 2 generalized anxiety disorder and 1 specific phobia. None of them had comorbid PTSD, and none of the healthy controls exhibited a SCID-I diagnosis. The mean age was 34 ($SD = 11$). Most participants were married or cohabiting, 19% were single and 10% were divorced. Almost half was college educated. About one-third was employed, one-third was unemployed and the others were student or homemaker. These factors were not significantly different between the groups (smallest $p = .07$, for education). The mean period of pre-treatment complaints was 4 years ($SD = 8$) for PTSD patients and 7.1 years ($SD = 8.7$) for patients with other anxiety disorders.

Procedure and measures

Patients admitted for treatment to the Anxiety Disorders Program of the Community Mental Health Centre of Maastricht, which is affiliated with Maastricht University, were administered the SCID-I by a licensed psychologist with extensive diagnostic experience. They received verbal and written information about the study and were invited to participate. After giving written informed consent, they completed the PSS-self-report version (Foa *et al.*, 1993), State-Trait Anxiety Inventory (STAI; Spielberger, 1983), Symptom Checklist-90 (SCL-90; Derogatis, 1977) and Fear Questionnaire (FQ; Marks & Mathews, 1979). The healthy controls were recruited from the community with advertisements seeking healthy persons for a study of questionnaires. They received verbal and written information about the study. After giving written informed consent, they were administered the SCID-I by a licensed psychologist and the questionnaires, except the SCL-90. An Institutional Review Panel approved this study.

The PTSD group rated the PSS with respect to their most traumatic event, which was consistent with the SCID-I-PTSD module. Participants without PTSD were asked to identify their most bothersome, aversive life-event, and to rate the PSS with respect to this event. Respondents rated how much each symptom had bothered them in the past month, using a four-point scale (0, not at all; 3, almost always). Self-rated symptoms based on the PSS agreed with the PTSD module of the SCID-I (First *et al.*, 1997) for 62–90% of victims with PTSD and 84–100% of victims without PTSD (Foa *et al.*, 1993; Wohlfarth, van den Brink, Winkel, & ter Smitten, 2003). The PTSD diagnosis was calculated according to the DSM-IV symptom criteria. Foa *et al.* (1993, 1997) scored a symptom as present if it was rated at least 1 ('once in a while'), but some researchers (e.g. Brewin *et al.*, 2000; Engelhard *et al.*, 2002) used a more conservative scoring rule of at least 2 ('half the time'). In this study, both scoring rules were used. Cronbach's alpha was 0.85 for the PTSD group and 0.95 for all groups. Subscale coefficients for re-experiencing, avoidance and hyperarousal were 0.85, 0.73 and 0.76, respectively, for the PTSD group, and 0.92, 0.88 and 0.86, respectively, for all groups.

Results

Traumatic events reported by the PTSD group were physical ($N = 22$) or sexual assault ($N = 18$), accident ($N = 14$), witnessing violence or death ($N = 4$), war ($N = 2$) and other ($N = 5$; i.e. almost choking on food, catching fire from fondue, being briefly jailed

on an alleged child sexual abuse charge, death of a child and neonatal death). The most aversive events reported by other anxiety patients were death of loved one ($N = 8$), witnessing or experiencing violence ($N = 5$), somatic illness of self or loved one ($N = 5$), car crash ($N = 2$), 'hyperventilation', panic attack and change in medication ($N = 6$), aversive social event ($N = 3$) and other ($N = 11$; i.e. rape, parents arguing, maggots being thrown at as child by other child, partner's infidelity, own infidelity, being bullied, being fired, being overworked, doubts about sexual orientation due to same-sex childhood sexual experience, being told by relative to be a bad mother and witnessing a child almost getting hurt on a conveyer belt). The most aversive events reported by healthy controls were death of loved one ($N = 15$), accident of self or loved one ($N = 8$), breakup or divorce ($N = 5$), somatic illness of loved one ($N = 4$), undisclosed ($N = 1$) and other ($N = 7$; i.e. being at pool during thunderstorm as child, being caught lying as child, briefly losing sight of daughter during family trip, financial problems of mother, being suspended from High School, being sent to boarding school as teenager and not becoming a professional soccer player).

Table 1 shows the means (*SD*) of the psychometric measures. As expected, the groups with PTSD or other anxiety disorders scored significantly higher on the STAI and FQ than the healthy controls. For the latter group, the STAI and FQ scores fell in the normal range (Spielberger, 1983; Gillis, Haaga, & Ford, 1995). Compared with the patients with other anxiety disorders, the PTSD group scored significantly higher on the PSS (subscales). Contrary to what was hypothesized, the group with other anxiety disorders scored higher on the PSS (subscales) compared with the healthy controls.

Table 1. Means (standard deviations in parentheses)

	Group			
Measures	PTSD	Other anxiety disorders	Healthy	*F*
PSS	27.0 (10.8)$_a$	14.1 (10.4)$_b$	2.5 (3.7)$_c$	89.0*
Re-experiencing	8.0 (3.9)$_a$	3.5 (3.6)$_b$	0.6 (1.5)$_c$	66.4*
Avoidance	10.6 (4.9)$_a$	5.4 (5.0)$_b$	0.6 (1.6)$_c$	68.2*
Arousal	8.4 (3.7)$_a$	5.1 (3.1)$_b$	1.4 (1.4)$_c$	68.0*
STAI-trait scale	54.3 (12.6)$_a$	52.6 (10.2)$_a$	31.7 (9.3)$_b$	56.6*
STAI-state scale	53.6 (13.9)$_a$	47.6 (12.9)$_a$	29.4 (8.4)$_b$	48.5*
SCL-90	1.5 (0.8)$_a$	1.2 (0.6)$_a$		1.5
FQ fear	38.2 (21.2)$_a$	44.6 (20.6)$_a$	17.1 (7.1)$_b$	25.6*
FQ avoidance	41.5 (24.1)$_a$	42.4 (22.7)$_a$	14.5 (10.3)$_b$	25.1*

Note. Possible ranges of scores were PSS, 0–51; STAI-state/trait, 20–80; SCL-90 global severity index, 0–4; FQ fear/avoidance, 0–120.
Means with different subscripts differ significantly at $p < .05$ in the multiple comparison.
*$p < .05$.

Next, we tested whether the high PSS scores in the group with other anxiety disorders could be attributed to Criterion A traumatic events (including death of loved one and panic attack). However, there were no significant differences on the PSS scores between 20 patients who met Criterion A events [$M = 11.9$, $SD = 9.9$] and 20 who did not [$M = 17.2$, $SD = 10.6$; $F(1, 38) = 2.6$, ns]. The difference was in the opposite direction to what would be expected if Criterion A events were related to PTSD symptoms.

Table 2 shows a comparison of DSM-IV PTSD-diagnoses made using the PSS with the SCID-I. Using the conservative scoring rule and comparing the individuals with PTSD with individuals with other anxiety disorders, the sensitivity was 0.48 (proportion of true positives), specificity was 0.8 (proportion of true negatives), positive predictive value was 0.79 (proportion of people who score positive on the PSS who actually have PTSD on the SCID-I), negative predictive value was 0.48 (proportion of people who score negative on the PSS who actually do not have PTSD on the SCID-I) and the overall 'hit rate' was 0.6. Individuals with other anxiety disorders met the PTSD symptom criteria on the PSS in relation to 'hyperventilation', panic attack, being bullied, heart attack of father, witnessing brother being hurt in a fight, parents arguing, partner's infidelity and being fired. The specificity was 1 for the healthy control group.

Table 2. Comparison of diagnoses made using the PTSD symptom scale (PSS) with the structured clinical interview for axis I DSM-IV disorders (SCID-I)

		SCID-I		
PSS		PTSD	Other anxiety disorders	Healthy controls
Conservative scoring	Positives	31	8	0
	Negatives	34	32	40
Liberal scoring	Positives	56	17	2
	Negatives	9	23	38

Using the liberal scoring rule and comparing the individuals with PTSD with the individuals with other anxiety disorders, the sensitivity was 0.86, specificity was 0.58, positive predictive value was 0.77, negative predictive power was 0.72 and the overall hit rate was 0.75.[1] For the further nine patients with other anxiety disorders, PTSD symptom criteria were met in relation to panic attack ($N = 2$), change in medication, maggots being thrown at as a child, rape, death of a relative after illness ($N = 2$), own infidelity and being overworked**.** Most of them had a primary diagnosis of panic disorder ($N = 10$) or social phobia ($N = 4$). The specificity was 0.95 for the healthy controls (two met the PTSD symptom criteria due to death of loved one after illness).

Discussion

PTSD symptoms on the PSS showed good sensitivity and specificity distinguishing PTSD patients from healthy controls when using the liberal scoring rule, which nicely replicates earlier findings (Foa *et al.*, 1993, 1997; Wohlfarth *et al.*, 2003). However, with the same scale and criteria, nearly half of the patients with other anxiety disorders reported sufficient symptoms to meet the PTSD diagnosis. The conservative scoring rules out a number of false positives, but the gains in specificity go hand in hand with a loss of sensitivity.

There are several explanations for the high rate of false positives among anxiety patients without PTSD. First, the aversive events mentioned by many patients without

[1] *Recent studies (e.g. Coffey* et al.*, 2006) have suggested a severity cut-off. The findings are similar when using 15 as scoring rule.*

PTSD are not typically regarded as traumatic, at least not by the DSM-IV (partner's infidelity, being overworked, etc.), but may breed symptoms that characterize PTSD. As mentioned, earlier studies have documented PTSD symptoms after problems with work, finances and relationships (e.g. Mol *et al.*, 2005). Second, there is considerable overlap between symptoms of PTSD and other anxiety disorders. Four of the five PTSD hyperarousal symptoms are also defining features of generalized anxiety disorder, and the PTSD numbing symptoms (e.g. 'feeling detachment or estrangement from others') are similar to derealization and depersonalization in panic disorder. Some of the DSM-IV PTSD symptoms refer to the traumatic event (e.g. intrusions *about* the trauma), but many others do not (i.e. 'diminished interest or participation in significant activities', 'feeling detachment or estrangement from others', 'restricted range of affect', 'sense of a foreshortened future', 'difficulty falling or staying asleep', 'irritability or outbursts of anger', 'difficulty concentrating', 'hypervigilance' and 'exaggerated startle responses'; American Psychiatric Association, 1994, pp. 424–429). Research among traumatized individuals has shown that the most sensitive (PSS) symptoms are those of the hyperarousal cluster, intrusive recollections, distress when confronted with reminders and cognitive avoidance. However, these show low to moderate specificity (Ehlers *et al.*, 1998). Anxious patients without DSM-IV-defined trauma might endorse many of those items. An example could be an OCD patient with harming obsessions affirming that (s)he has intrusions about a traumatic event. The high rate of false positives may be due to symptom overlap or symptoms being so similar that anxiety patients without PTSD overlook subtle differences and affirm their presence. Third, several symptoms of avoidance/numbing and hyperarousal are prominent in depression (McNally, 1992). Clinical or subclinical depression often co-occurs with anxiety disorders, including PTSD (Brown, Campbell, Lehman, Grisham, & Mancill, 2001). The high rate of false positives among other anxiety patients could result from symptom overlap with (subclinical) depression. Finally, neuroticism is a fundamental personality trait that increases risk of anxiety disorders and/or depression (Clark, Watson, & Mineka, 1994). In fact, neuroticism scores of clinical patients are about two standard deviations above the population mean (Van den Hout, 2004). Interestingly, the symptom overlap between neuroticism and the PTSD hyperarousal symptoms is considerable (Engelhard, van den Hout, & Kindt, 2003). Thus, shared variance between anxiety disorders and neuroticism might be responsible for the high rate of false positives.

Whatever the reason for the high rate of false positives, its existence is troublesome. The PTSD diagnostic criteria are unusual by including an etiological factor (a particular traumatic event). The validity of the diagnosis does not seem to benefit from this: most individuals exposed to a DSM-IV-defined traumatic event will not develop PTSD (see Breslau, 1998), and many individuals displaying the PTSD symptom pattern may not have experienced a related traumatic event.

Limitations of this study include the small sample sizes and use of mainly self-reports, which might have influenced the results if people misunderstand certain items. Future research could take several directions. First, the data raise doubts about the assessment of PTSD by self-report measures: these may identify many PTSD patients as well as anxiety patients without PTSD. However, some self-report instruments might work better than others, such as inventories that measure many different conditions together (i.e. multiscale tests), which is an empirical issue that awaits future research. Second, knowledge is scant with respect to the qualitative nature of reactions to traumatic and common stressors. The nature of the stressor might determine different subtypes of PTSD (e.g. depressive or physiologically responsive subtypes). Third, it might be

interesting to test whether treatment proven useful to PTSD is also effective for individuals suffering from similar symptoms after stressors not defined as traumatic by the DSM-IV. In sum then, the impact of traumatic events on mental health is often determined by merely examining whether or not participants meet symptom criteria for PTSD on a questionnaire. Our findings suggest that many people screened positive for PTSD this way may not be actually suffering from the disorder.

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References

American Psychiatric Association (1980/1994). *Diagnostic and statistical manual of the mental disorders*. Washington, DC: APA.

Bowman, M. L. (1999). Individual differences in posttraumatic stress: Problems with the DSM-IV model. *Canadian Journal of Psychiatry*, *44*, 21–33.

Breslau, N. (1998). Epidemiology of trauma and posttraumatic stress disorder. In R. Yehuda (Ed.), *Psychological trauma* (pp. 1–29). Washington, DC: APA.

Brewin, C. R. (2003). *Posttraumatic stress disorder: Malady or myth?* New Haven, CT: Yale University Press.

Brewin, C. R., Andrews, B., & Rose, S. (2000). Fear, helplessness, and horror in posttraumatic stress disorder: Investigating DSM-IV criterion A2 in victims of violent crime. *Journal of Traumatic Stress*, *13*, 499–509.

Brown, T. A., Campbell, L. A., Lehman, C. L., Grisham, J. R., & Mancill, R. B. (2001). Current and lifetime comorbidity of the DSM-IV anxiety and mood disorders in a large clinical sample. *Journal of Abnormal Psychology*, *110*, 585–599.

Clark, L. A., Watson, D., & Mineka, S. (1994). Temperament, personality, and the mood and anxiety disorders. *Journal of Abnormal Psychology*, *103*, 103–116.

Coffey, S. F., Gudmundsdottir, B., Beck, J. G., Palyo, S. A., & Miller, L. (2006). Screening for PTSD in motor vehicle accident survivors using the PSS-SR and IES. *Journal of Traumatic Stress*, *19*, 119–128.

Derogatis, L. R. (1977). *SCL-90: administration, scoring and procedures manual-I for the R(evised) version*. Baltimore: John Hopkins University School of Medicine, Clinical Psychometrics Research Unit.

Ehlers, A., Mayou, R. A., & Bryant, B. (1998). Psychological predictors of chronic posttraumatic stress disorder after motor vehicle accidents. *Journal of Abnormal Psychology*, *107*, 508–519.

Engelhard, I. M., van den Hout, M. A., Arntz, A., & McNally, R. J. (2002). A longitudinal study of "Intrusion-based reasoning" and PTSD after a train disaster. *Behaviour Research and Therapy*, *40*, 49–58.

Engelhard, I. M., van den Hout, M. A., & Kindt, M. (2003). The relationship between neuroticism, pre-traumatic stress, and post-traumatic stress: A prospective study. *Personality and Individual Differences*, *35*, 381–388.

First, M. B., Spitzer, R. L., & Williams, J. B. W. (1997). *Structured clinical interview for DSM-IV axis I disorders: SCID-I: Clinician version*. New York: Columbia University/APA.

Foa, E. B., Cashman, L., Jaycox, L., & Perry, K. (1997). The validation of a self-report measure of posttraumatic stress disorder: The posttraumatic diagnostic scale. *Psychological Assessment*, *9*, 445–451.

Foa, E. B., Riggs, D. S., Dancu, C. V., & Rothbaum, B. O. (1993). Reliability and validity of a brief instrument for assessing post-traumatic stress disorder. *Journal of Traumatic Stress*, *6*, 459–473.

Gillis, M. M., Haaga, D. A. F., & Ford, G. T. (1995). Normative values for the Beck anxiety inventory, fear questionnaire, Penn worry questionnaire, and social phobia and anxiety inventory. *Psychological Assessment*, *7*, 450–455.

Hackmann, A., Clark, D. M., & McManus, F. (2000). Recurrent images and early memories in social phobia. *Behaviour Research and Therapy*, *38*, 601–610.

Hoge, C. W., Castro, C. A., Messer, S. C., McGurk, D., Cotting, D. I., & Koffman, R. L. (2004). Combat duty in Iraq and Afghanistan, mental health problems, and barriers to care. *New England Journal of Medicine*, *351*, 13–22.

Jones, J. C., & Barlow, D. H. (1990). The etiology of posttraumatic stress disorder. *Clinical Psychology Review*, *10*, 299–328.

Kessler, R. C., McGonagle, K. A., Zhao, S., Nelson, C. B., Hughes, M., Eshleman, S., *et al.* (1994). Lifetime and 12-month prevalence of DSM-III-R psychiatric disorders in the United States: Results from the national comorbidity survey. *Archives of General Psychiatry*, *51*, 8–19.

Marks, I. M., & Mathews, A. M. (1979). Brief standard self-rating for phobic patients. *Behaviour Research and Therapy*, *17*, 263–267.

McNally, R. J. (1992). Psychopathology of posttraumatic stress disorder (PTSD): Boundaries of the syndrome. In M. Başoğlu (Ed.), *Torture and its consequences: Current treatment approaches* (pp. 229–252). Cambridge: Cambridge University Press.

McNally, R. J. (2003). *Remembering trauma*. Cambridge, MA: Harvard University Press.

Mol, S. S. L., Arntz, A., Metsemakers, J. F. M., Dinant, G.-J., Vilters-van Monfort, P. A. P., & Knottnerus, J. A. (2005). Symptoms of post-traumatic stress disorder: Evidence from an open population study. *British Journal of Psychiatry*, *186*, 494–499.

Rainey, J. M., Aleem, A., Ortiz, A. M., Yeragani, V. K., Pohl, R., & Berchou, R. (1987). A laboratory procedure for the induction of flashbacks. *American Journal of Psychiatry*, *144*, 1317–1319.

Reynolds, M., & Brewin, C. R. (1999). Intrusive memories in depression and posttraumatic stress disorder. *Behaviour Research and Therapy*, *36*, 135–146.

Schlenger, W. E., Caddell, J. M., Ebert, L., Jordan, B. K., Rourke, K. M., Wilson, D., *et al.* (2002). Psychological reactions to terrorist attacks. Findings from the national study of Americans' reactions to September 11. *Journal of American Medical Association*, *288*, 581–588.

Scott, M. J., & Stradling, S. G. (1994). Post-traumatic stress disorder without the trauma. *British Journal of Clinical Psychology*, *33*, 71–74.

Shalev, A. Y., Freedman, S., Peri, T., Brandes, D., Sahar, T., Orr, S. P., *et al.* (1998). Prospective study of posttraumatic stress disorder and depression following trauma. *American Journal of Psychiatry*, *155*, 630–637.

Solomon, S. D., & Canino, G. J. (1990). Appropriateness of DSM-III-R criteria for posttraumatic stress disorder. *Comprehensive Psychiatry*, *31*, 227–237.

Spielberger, C. D. (1983). *State-Trait Anxiety Inventory (Form Y) manual*. Redwood City, CA: Mind Garden.

Summerfield, D. (2001). The invention of post-traumatic stress disorder and the social usefulness of a psychiatric category. *British Medical Journal*, *322*, 95–98.

Van den Hout, M. A. (2004). *Personality, safety behaviours, and anxiety disorders*. Paper presented at the annual meeting of the European Association for Behavioural and Cognitive Therapies (EABCT), Manchester, UK.

Wohlfarth, T. D., van den Brink, W., Winkel, F. W., & ter Smitten, M. (2003). Screening for posttraumatic stress disorder: An evaluation of two self-report scales among crime victims. *Psychological Assessment*, *15*, 101–119.

Yehuda, R., & McFarlane, A. C. (1995). Conflict between current knowledge about posttraumatic stress disorder and its original conceptual basis. *American Journal of Psychiatry*, *152*, 1705–1713.

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