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A PSYCHO-PHYSIOLOGICAL COMPARISON OF POST-TRAUMATIC AND PROLONGED DURESS STRESS DISORDERS

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Abstract. It has been proposed that post-traumatic stress disorder (PTSD) and so-called ''prolonged duress stress disorder'' (PDSD) have similar symptom profiles and differ only with regard to the presence or absence of a ''traumatic event''. This single case experiment investigated whether PTSD can be distinguished from PDSD at the level of patho-physiology. The results indicate that both PTSD and PDSD imagery elicit physiological responses, but these are more readily and more strongly evoked by the former than the latter. These findings suggest that physiological response differences between PTSD and PDSD may be only a matter of degree. Implications are drawn for the psycho-physiological assessment of PDSD and recommendations for further research are made.

Keywords: Stress disorders, PTSD, diagnosis, psycho-physiological assessment.

Introduction

PTSD is unusual among the anxiety disorders in that its definition incorporates aetiological factors (Duckworth, 1987; Scott & Stradling, 1994). A diagnosis of PTSD is dependent upon symptoms having been precipitated by a trauma in which the person (a) experienced, witnessed, or was confronted with an event or events that involved actual or perceived threat to life or physical integrity, and (b) responded with intense fear, helplessness or horror.

Thus, an individual's complaint can meet the symptomatic criteria of PTSD and yet not merit a PTSD diagnosis. Indeed, Ravin and Boal (1989) and Scott and Stradling (1994) have identified a range of cases fulfilling these criteria but with the symptoms being attributable to an accumulation of relatively low intensity stressors, rather than to the dramatic stressor(s) required for a PTSD diagnosis. Scott and Stradling (1994) suggest that a diagnosis of Prolonged Duress Stress Disorder (PDSD) could be applicable in such cases. The implication is that these two types of disorder are essentially alike, albeit differing in regard to the precipitating event(s).

A similarity of reported symptoms across patient groups may, however, disguise important differences. For instance, it could be that differences are expressed at a physiological level, though not at a phenomenological level.

In the case presented here the patient suffered from both PTSD and PDSD, thereby

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providing an opportunity to compare psycho-physiological reactivity to ''stressor'' images associated with both disorders.

Method

Participant

The patient was a 53-year-old woman referred to clinical psychology with symptoms of PTSD and depression. She presented with the full range of PTSD symptoms. She was also fearful of being left alone, was self-harming and her lifestyle was severely impaired.

The patient attributed her various problems to two separate and prolonged stressors from her recent past. Both were work-related: one involved a threat to her life (PTSD-related stressor), and the other concerned repeated blows to her self-esteem (PDSD-related stressor). The life-threatening stressor concerned a terrifying incident during which a convicted violent criminal, known professionally to the patient, threatened to rape and kill her, and subsequently stalked her for two years. The second stressor involved repeated ''bullying'' or ''humiliation'' by two successive bosses. It included continually having faults picked with her work, being reprimanded and ridiculed in front of other colleagues, and having false accusations brought against her.

Assessments

A Post-traumatic Stress Diagnostic Scale (PDS; Foa, 1995), and an Impact of Event Scale – Revised (IES-R; Weiss & Marmar, 1997) was completed separately for each stressor, together with other mood-related assessments.

Procedure

Two *Audiotaped Imagery Scripts* were composed, each comprising a series of 30-second verbalized images. In one tape six repetitions of a sequence of neutral (N), stress (S1) and violence trauma (VT) scenarios were presented. The other tape comprised a similar repeating sequence but with a ''humiliation trauma'' (HT) scenario replacing the VT scenario, and a second significant personal ''stress'' image (S2) replacing S1. There were 2-minute baseline (BL) intervals before each scenario presentation. The scripted imagery and audiotape construction methodologies adopted were similar to those employed in a number of previous studies of the psychophysiology of PTSD (e.g., Orr, Pitman, Lasko, & Herz, 1993).

Pulse rate (PR) was recorded at 5-second intervals throughout the experimental period using a small wristwatch-like pulse meter with a finger probe, a Minolta Pulsox 3i (AVL Medical Instruments, Switzerland, 1997).

The psycho-physiological assessment took place over two sessions separated by two days, with the VT tape being presented on the first day, the HT tape on the second. The patient was instructed to listen to each script carefully when a tone sounded, then at the next tone to imagine the experience as vividly as possible, and to continue until a further tone indicated the start of a 2-minute music interlude, the last 30 seconds of which was the BL for the next script/imagery period.

Table 1 Means and standard deviations (*SD*s) for absolute and response pulse rate (PR) values associated with stress and trauma images

	PR absolute values				PR response values			
	S1	VT	S2	HT	S1	VT	S2	HT
Means	76.3	76.8	70.2	71.0	–0.3	1.17	–0.28	–0.83
*SD*s	4.76	6.42	3.1	4.01	3.2	5.92	3.55	4.72

Note: S1 = stress experience 1; S2 = stress experience 2; VT = violence trauma; HT = humiliation trauma.

Results

The self-report diagnostic assessments confirmed that the symptoms associated with both stressors met the PTSD symptom criteria, with a high level of severity indicated in both cases. Necessarily, the traumatic event criterion was met only for the life-threatening violence stressor.

As expected, PR responses (final BL value minus imagery value) during neutral imagery were minimal, with averaged responses ranging from −1.8 to 1.13 bpm. Of the 216 stress-image responses recorded, only 4 of these exceeded 6 bpm, with the highest (9.7 bpm) corresponding to a rise of 2.4 *SD* over baseline. By contrast, of the 108 VT imagery responses 23 did so, with 16 of these exceeding 10 bpm. The highest VT image response was 18.4 bpm, a rise of 13.2 *SD*s over BL. Of the 108 HT imagery responses 15 exceeded 6 bpm and 4 exceeded 10 bpm. The highest HT image response was 15.8 bpm, a rise of 8.8 *SD*s over BL. These heightened trauma image responses were produced exclusively during trials 2 and 5 of VT imagery and trial 6 of HT imagery. In the remaining trauma imagery trials the PR responses were either wholly, or very largely, negative (decremental) with averaged responses ranging from −5.3 to −0.8. Responses to stress images within these same trials were much more variable (averaged responses ranged from −5.5 bpm to 3.6 bpm).

Table 1 presents the overall absolute and response PR mean values and standard deviations for each imagery type across the six trials. The absolute values evoked by the stress and trauma imagery in the first testing session (S1 and VT) are notably higher than the equivalents from session 2 (S2 and HT). This is also true for PR response values associated with trauma imagery. Response data do not differentiate S1 and S2.

Discussion

The results of this single case experiment suggest that PTSD and PDSD can present with similar symptom profiles and that both may evidence trauma-specific physiological responsiveness (i.e. not evoked by stress imagery) to their corresponding ‘‘trauma’’ images. However, the data also indicate differences in psycho-physiological reactivity. The PTSD imagery produced earlier, stronger and repeated PR responses (2nd and 5th trials), while the PDSD imagery required more repeated presentations to evoke a single episode of responsivity (6th trial). Thus, there may not be a discrete difference in the patho-physiology of these two stress conditions. Rather, the difference may be a matter of degree. A practical implication arising from this is that the psycho-physiological assessment of PDSD cases may require a repeated-image presentation design to evoke ‘‘trauma-related’’ responses.

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This is particularly highlighted by the fact that decremental responses were obtained during most trauma imagery (perhaps due to the employment of cognitive avoidance strategies to evade vivid imaging).

These conclusions clearly have to be regarded as very tentative given that the findings are derived from only one patient and the diagnoses were not made by structured interviews. Moreover, it might be argued that between-session habituation effects could have played a part in producing the differences between VT and HT imagery. However, response values should be less susceptible to such effects than absolute values, which is confirmed by a comparison of the absolute and response PR values evoked by the stress imagery across the two testing sessions. Nevertheless, firm conclusions can only be drawn if the findings of this study are replicated in a controlled group comparison using structured diagnostic interviews to establish initial diagnoses.

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