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# Post-traumatic stress and relationships to coping and alexithymia in patients with psychogenic non-epileptic seizures

and stress coping strategies.

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### ARTICLE INFO

### ABSTRACT

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Keywords: PNES Trauma PTSD Coping Alexithymia Emotion Inventory-2 (TSI-2) and diagnostic clinical interview, Toronto Alexithymia Scale (TAS-20), and the Coping Inventory for Stressful Situations (CISS). There were 3 groups: 48 patients with PTSD, 62 patients who had experienced trauma and did not have PTSD, and 46 patients who denied experiencing trauma. *Results:* One-way ANCOVA revealed a significant difference between groups on reported levels of alexithymia [F(2, 154) = 18.21, p < .001] and use of emotion-focused coping [F(2, 156) = 11.12, p < .001]. Tukey HSD post-hoc comparisons indicated that the PNES/PTSD group had significantly higher mean alexithymia scores (M = 59.54, SD = 12.89) than both the no trauma (M = 49.51, SD = 14.92) and the trauma with no PTSD groups (M = 49.98, SD = 13.27), which did not differ from each other. The PNES/PTSD group was also significantly more likely (M = 62.44, SD = 11.56) than the no trauma (M = 52.87, SD = 13.57) and the trauma with no PTSD groups (M = 52.06, SD = 12.63) to utilize emotion-focused coping. *Conclusion:* The study revealed elevated alexithymia and use of potentially more maladaptive emotion-focused coping strategies among patients with PNES and comorbid PTSD. These findings highlight discrete areas to target in treatment depending on comorbid symptomatology, and suggests that PNES, which is often regarded as a homogeneous entity, appears to encompass distinct subgroups.

Purpose: There is increasing evidence that patients with PNES can form subgroups distinguished by

emotion dysregulation and comorbid psychological symptoms. The purpose of this study was to

determine if patients with comorbid PTSD differ from other patients with PNES in terms of alexithymia

Methods: 156 adult patients with video-EEG confirmed PNES were assessed with the Trauma Symptom

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### 1. Introduction

Psychogenic non-epileptic seizures (PNES) are paroxysmal events that resemble epileptic seizures in presentation but lack electrophysiological correlates or clinical evidence for epilepsy. Instead, there is evidence of psychological antecedents, and PNES are categorized as functional neurological disorders (FND)/ conversion disorders within the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5)* [1]. However, some researchers have noted that the PNES diagnosis itself does not have its own unique classification, and is subsumed under various categories including conversion, dissociative, and somatization disorders [2]. Indeed, the various etiologies and mechanisms of PNES remain relatively unclear, given differences in underlying

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structure and phenomenology. A host of commonly associated psychiatric comorbidities also complicates the diagnostic picture, and the degree of comorbid psychopathology tends to positively correlate with severity of the PNES disorder [3,4]. In particular, experiences of trauma, and Post Traumatic Stress Disorder (PTSD), remain closely linked with PNES. A significant proportion of PNES patients report high rates of previous traumatic experiences, including sexual, physical, and psychological abuse, and often multiple traumas [3,5,6]. In a review of 17 studies, PNES groups had rates of trauma ranging from 44 to 100% of the sample and rates of abuse ranging from 23 to 77%, representing a 15–40% higher rate than that observed in control groups [7].

While trauma and stressful life events are commonly associated with development of PNES [7,8], the mechanisms underlying this relationship remain unclear, though there is evidence that emotion regulation and maladaptive responses to stress modulate the experience of PNES [8,9]. Indeed, PNES populations demonstrate greater difficulty with attentional set-shifting during tasks that place emotional demands on the subject [10]. In addition, patients







with PNES reported significantly greater impairments in emotional processing, including suppression of emotion, avoidance, and impoverished emotional experience, compared to healthy controls [11]. These qualities are also characteristic of alexithymia, broadly defined as difficulty identifying and describing emotional experience. Indeed, emotion regulation among those with PNES tend to be characterized by a poorer understanding of emotion, negative beliefs about emotions, as well as some over-control of emotional expression compared to healthy participants [9]. In addition to challenges with emotional regulation, there is evidence that while PNES patients do not necessarily experience more objectively severe life demands than epilepsy patients or healthy controls, subjective distress tends to be higher and coping style tends to be less active and organized [8]. Similarly, in a study of South African patients with PNES, the PNES group utilized more avoidance and distancing coping strategies compared to healthy controls, which was associated with significantly lower self-reported healthrelated quality of life [12].

It is possible that differences in emotion regulation and coping style may further distinguish subgroups of patients with PNES based on their past experience of trauma, given the wellestablished effects of trauma on emotional processing and behavior [13]. There is some evidence that patients with PNES with trauma history may form a distinct profile compared to those with no trauma history, often showing greater rates of psychiatric comorbidity, dissociative features, and difficulty describing their feelings [14]. Some speculation also posits that PNES in certain individuals may represent a clinical expression of a dissociative PTSD subtype [7]. Differential diagnosis for PTSD in the DSM-5 indicates that new onset of somatic symptoms within the context of posttraumatic stress may be an indication of PTSD rather than conversion [1]. Other studies have suggested that patients with PNES and comorbid PTSD symptoms display greater demoralization, lower positive emotionality, as well as cognitive weaknesses such as lower narrative memory compared with both patients with trauma histories but no PTSD, and those without past trauma [6,15]. In a recent article positing an integrative model of PNES, Brown and Reuber [16] emphasize that the diagnosis of PNES primarily denotes that the disorder is psychological and not neurological in origin, but does not capture the variation in personality profiles, comorbidities, treatment response, and other characteristics among individuals. There is no widely-established unifying model of the disorder at present; rather models positing a multitude of contributory factors (i.e., a "seizure scaffold model" of chronic stress, suppression of arousal/distress, and inhibitory dysfunction, which is often but not necessarily associated with trauma) can be understood as a mechanism for producing and perpetuating PNES. Given the lack of a single conceptualization, further examination of heterogeneity among subgroups of PNES patients (particularly those with trauma histories) can help elucidate underlying models of etiology and mechanism.

Indeed, this points to the importance of investigating how groups of PNES patients might be distinguished based on trauma profiles in addition to other clinical characteristics, given that they may not be categorized adequately by the same overarching diagnosis. Taken together, the foundational and maintaining factors underlying PNES can differ widely, and warrant more detailed examination. The current study aimed to investigate how emotion regulation and coping differ between PNES patients with and without concurrent PTSD symptoms, given the role of these strategies in maintaining PNES features. Indeed, a previous study of PNES patients identified two clusters of individuals distinguished by high versus low levels of somatization, alexithymia, and emotional regulation abilities [17]. The present study sought to further examine these characteristics based on trauma profile: specifically, to determine whether individuals dually diagnosed with PNES and PTSD exhibit distinct (and potentially more maladaptive patterns) of coping and alexithymia compared to PNES patients with less severe trauma symptomatology, or no history of trauma.

### 2. Materials and method

This study included 156 adult patients at a large multisite epilepsy program with a diagnosis of PNES confirmed with inpatient video-EEG monitoring, and who completed a comprehensive neuropsychological battery between 2008 and 2016. Demographic and clinical variables, including sex, age of PNES onset, PNES duration, age of initial trauma, lifetime history of psychotherapeutic or psychopharmacological treatment, and years of education at the time of assessment were also recorded.

All of the subjects were interviewed by a licensed clinical psychologist who assessed for history of trauma (defined as various forms of emotional/physical/sexual abuse, bereavement, severe medical issues, witnessing abuse). Since some patients had experienced multiple traumatic events, age of the first traumatic episode was classified as "age of initial trauma." A diagnosis of PTSD was made based on the information obtained from the clinical interview (according to DSM-IV criteria) combined with the scores from the Trauma Symptom Inventory-2 (TSI-2) [18].

Patients were categorized into one of three groups: 1) the first group reported psychological trauma and met criteria for a diagnosis of PTSD; 2) the second group reported a history of psychological trauma but failed to fulfill criteria for PTSD; 3) the third group denied a history of trauma.

### 2.1. Exclusion criteria

The initial number of 167 patients was reduced to 156 because of the following exclusions: 5 were found to have a dual diagnosis of epilepsy and PNES, 4 did not complete the battery, 1 was classified by the neuropsychologist as putting forth insufficient effort (malingering), and 1 was diagnosed with a factitious disorder.

### 2.2. Measures

The standard battery of tests administered to patients with PNES in the current sample included several self-report psychological measures, as described below.

The Trauma Symptom Inventory-2 (TSI-2) [18] was utilized in determining the diagnosis of PTSD along with clinical data. The TSI-2 is a 136 item self-report measure that is used to evaluate acute and chronic posttraumatic symptomatology in adults. The TSI-2 assesses for the effects of sexual and physical assault, intimate partner violence, combat, torture, motor vehicle accidents, mass casualty events, medical trauma, traumatic losses, and childhood abuse or neglect. The clinical scales of the instrument measure the extent to which the respondent endorses twelve trauma-related symptoms including: Anxious Arousal, Depression, Anger, Intrusive Experiences, Defensive Avoidance, Dissociation, Somatic Preoccupations, Sexual Disturbance, Suicidality, Insecure Attachment, Impaired Self-Reference, and Tension Reduction Behavior. The TSI-2 has been thoroughly examined with regards to reliability and validity, and was normed on a US standardization sample aged 18-90. In addition, the TSI-2 has two symptom validity subscales (Atypical Response ATR) and the Response Level (RL). Predictive validity of PTSD using the TSI-2 was tested through discriminant function analysis using the T scores for the Anxious Arousal, Intrusive Experiences, and Defensive Avoidance scales. An optimally weighted combination of these TSI-2 scales significantly predicted PTSD with a sensitivity of 1.00 and specificity of 0.88. In Download English Version:

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