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Implicit and explicit self-esteem discrepancies in people with psychogenic nonepileptic seizures

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ABSTRACT

Purpose: Self-esteem (SE), or one's sense of competence and worth, is reduced in many mental and physical disorders. Low SE is associated with perceived stigma and disability and poor treatment outcomes. The present study examined implicit and explicit SE (automatic and deliberate views about the self) in people with epilepsy and people with psychogenic nonepileptic seizures (PNESs). Discrepancies between implicit SE and explicit SE have been found to correlate with psychological distress in disorders often associated with PNESs but are relatively unexplored in PNESs. We hypothesized that, compared with epilepsy, PNESs would be associated with lower self-reported SE and greater discrepancies between implicit SE and explicit SE.
Methods: Thirty adults with PNESs, 25 adults with epilepsy, and 31 controls without a history of seizures were asked to complete the Rosenberg Self-esteem Scale as a measure of explicit SE and an Implicit Relational Assessment Procedure as a measure of implicit SE. The State–Trait Anxiety Inventory and Patient Health Questionnaire—15 (a somatic symptom inventory) were also administered.
Results: We found significant group differences in explicit ($p < 0.001$) but not implicit SE. Patients with PNESs reported lower SE than the other groups. No group differences were found in implicit SE. Implicit–explicit SE discrepancies were larger in the group with PNESs than in the other groups ($p < 0.001$). Higher frequency of PNESs (but not epileptic seizures) was associated with lower explicit SE ($r_s = -.83$, $p < 0.01$) and greater SE discrepancies (i.e., lower explicit relative to implicit SE; $r_s = .65$, $p < 0.01$). These relationships remained significant when controlling for anxiety and somatization.
Conclusion: Patients with PNESs had lower explicit SE than those with epilepsy or healthy controls. In keeping with our expectations, there were greater discrepancies between implicit SE and explicit SE among patients with PNESs than in the other groups. Our results, including the strong relationship between PNES frequency, anxiety, and explicit–implicit SE discrepancies, support the interpretation that PNESs serve to reduce cognitive dissonance, perhaps protecting patients' implicit SE.

1. Introduction

Psychogenic nonepileptic seizures (PNESs) bear a superficial resemblance to epileptic seizures. However, whereas the experiences and behaviors associated with epileptic seizures are caused by abnormal electrical activity in the brain, most PNESs are considered a dissociative reaction to threatening situations, sensations, emotions, thoughts, or memories [1].

Psychogenic nonepileptic seizures are best conceptualized as a biopsychosocial condition with a psychological profile which, on a range of dimensions, is quite different from that found in patients with epilepsy: many studies have demonstrated that individuals with PNESs report a higher prevalence rate of trauma and PTSD relative to people with epilepsy [2] as well as higher levels of somatization [3]. Compared with epilepsy, individuals with PNESs are also more likely to have personality disorders, especially the borderline type [4]. On the other hand, studies have not found clear differences between patients with PNESs and those with epilepsy in terms of the prevalence of anxiety and depression [5], alexithymia (i.e., difficulty experiencing and expressing affect) [6], or self-reported levels of dissociation [3].

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Nevertheless, the prevalence rates of such disorders are higher than those seen in healthy controls.

One construct that is underexplored with respect to understanding PNESs is self-esteem (SE). There are strong links between SE, which is typically defined as a sense of competence and worth, and psychological disorders including depression, anxiety disorders, personality disorders, and eating disorders [7]. One hypothesis is that low SE creates vulnerability to stress (e.g., [8]). Although SE has been criticized for not consistently moderating the impact of daily hassles on mood, it has been shown to significantly lessen the impact of such stressors on physical symptoms [9]. Self-esteem has also been found to mediate the relationship between insecure attachment and PTSD symptomatology in survivors of interpersonal trauma, emotional abuse, and psychopathology [10,11]. Despite these links and the documented association of PNESs with trauma and increased rates of insecure attachment [12], there is only limited evidence of SE levels in PNESs.

Given the prevalence of psychological dysfunction and trauma mentioned above, in addition to the psychosocial impact of the disorder, individuals with PNESs are often characterized as vulnerable to low SE [13]; however, the single study that has examined this construct in this patient group used a measure of explicit SE only—limiting a deeper understanding of attitudes about the self in PNESs. This prior study found that SE was indeed lower in individuals with PNESs compared to healthy controls but that, on this measure, those with PNESs did not differ significantly from those with epilepsy [14]. Furthermore, while no correlations have been found between seizure frequency and SE in epilepsy [15], this relationship has not been studied in PNESs.

In addition to controlled/conscious processing (also referred to as *explicit* cognition), much of information processing, including about the self, occurs automatically unconsciously (implicit cognition; [16]). The term *implicit* refers to hypothetical psychological attributes that are introspectively inaccessible but that can be assessed through reaction times, word associations, or other non-self-report measures. Thus, SE can be either a deliberate evaluation of self (explicit SE) [17] or an impulsive, automatic, and overlearned evaluation (implicit SE) [18]. Implicit SE and explicit SE are considered to be relatively enduring characteristics, shaped by both positive and negative experiences [17,19]. Early trauma or childhood abuse, particularly rejection, critical attacks, contempt, and/or devaluation, can all undermine a child's emerging identity [11], leading to victims adopting a negative self-image. In turn, this can have long lasting effects on their character and behavior [20]. While childhood experiences may have a significant role in shaping SE, both implicit SE and explicit SE are considered vulnerable to events across the lifespan including adulthood. Someone with a relatively high SE, for example, may find themselves with a change of socioeconomic status or decline in physical health and, over a period of time, develop a less positive self-view [21]. Although implicit SE and explicit SE are susceptible to change, Baccus, Baldwin, and Packer [19] suggest that such divergences between the two interfere with a person's ability to benefit from positive social feedback. Notably, discrepancies in either direction are thought to be maladaptive and have been found to correlate with psychological distress in depression [22] and borderline personality disorder [23], both of which are associated with childhood trauma [24,25] and PNESs [3,4].

One explanation for why discrepant self-evaluations are problematic comes from cognitive dissonance theory [26], which proposes that conflicting thoughts, ideas, beliefs, or behaviors produce uncomfortable feelings and tension or anxiety. Because of an innate motivational drive to avoid inconsistency, behaviors can become irrational and maladaptive in an attempt to restore or maintain consonance [26]. Similarly, Steele argues that dissonance is rooted in threats to the self and that individuals engage in processes of dissonance reduction to defend the self from such threats [27]. Utilizing implicit methodology, Rydell, McConnell, and Mackie concluded that dissonance and dissonance-related discomfort increase when there is divergence on implicit and explicit measures [28]. Furthermore, discrepant implicit–explicit SE in either direction is associated with more dissonance-reducing behaviors. For instance, Jordan and colleagues showed that individuals with high explicit but low implicit SE were more defensive and rationalized their decisions more than those with consistent implicit–explicit SE [29]. As implicit–explicit discrepancies may be associated with anxiety, the present study builds on our previous findings examining the relationship between discrepancies in anxiety and PNES frequency [30].

The studies and theoretical rationale discussed above suggest that both implicit SE and explicit SE may play a key part in PNESs, and yet, previous work has only examined explicit SE. This study's primary aim was to compare groups (PNESs, epilepsy, controls) on implicit and explicit measures of SE. The secondary aims were to explore implicit–explicit SE discrepancies and to explore correlations between SE, anxiety, and seizure frequency. We hypothesized that people with PNESs would report lower SE and would show larger discrepancies in implicit and explicit measures of SE than people with epilepsy or nonclinical controls. We also anticipated that discrepancies in implicit and explicit measures of SE would be related to greater frequency of PNESs as PNESs may be conceptualized as an attempt to avoid distress and reduce arousal.

2. Method

2.1. Participants

As part of a larger study [30], 30 adults with PNESs and 25 adults with epilepsy (13 structural/metabolic epilepsy, five genetic generalized epilepsy, and seven unclassifiable epilepsy) were recruited from outpatient seizure clinics at the Sheffield Teaching Hospital NHS Foundation Trust between February and September 2012. All diagnoses were made by neurologists specializing in the treatment of seizures, and only those whose diagnoses were supported by a previous video-EEG recording of a typical seizure were included. Patients with mixed seizure disorders (people with both epilepsy and PNESs) were not included. Thirty-one adults matched on gender, age, and education who reported no history of seizures served as a nonclinical control group. These participants were recruited through a poster advertisement across the hospital and university. All participants were at least 18 years old. Individuals unable to complete self-report questionnaires unaided or not fluent in English and those physically unable to use a computer were excluded.

2.2. Ethical approval

The proposal was approved by Leeds Research and Ethics Committee (REC) and the Research Office of the Sheffield Teaching Hospitals NHS Foundation Trust. All participants provided written informed consent in accordance with the REC guidance and Helsinki Good Clinical Practice.

2.3. Measures

2.3.1. Demographic and medical history

Basic demographic information (age, gender, level of education) and seizure frequency were self-reported. Participants were also asked to specify in an open-ended fashion any current or previous mental health problems.

2.3.2. Rosenberg Self-esteem Scale (RSS)

The RSS was employed to examine explicit SE [31]. It is a 10-item questionnaire which asks for responses on a 4-point Likert scale from 0 to 3 with endpoints labeled strongly agree and strongly disagree. Scores range from 0 to 30, with higher scores reflecting a greater sense of worth and achievement. This measure is one of the most widely used SE measures. It has been found to have high internal consistency