



Exploring the Link Between Personality and Therapy Effectiveness in Psychogenic Non-Epileptic Seizures (PNES)

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Abstract

Psychogenic non-epileptic seizures (PNES) are seizure-like episodes without epileptiform activity, often linked to trauma, stress, and psychiatric comorbidities. Psychotherapy is the preferred treatment, but patients vary in response. Personality traits, especially those in the Big Five model (openness, conscientiousness, extraversion, agreeableness, neuroticism), may help explain these differences. This study used survey data from 25 people with PNES. Participants reported therapies tried, the most helpful therapy, its effectiveness on a 1–5 scale, comorbid diagnoses, seizure frequency, and personality trait scores. Trauma-focused therapy was most often rated as helpful (48%), followed by CBT (12%). Average effectiveness was 2.9 out of 5. Higher openness, conscientiousness, and agreeableness were associated with higher effectiveness, while neuroticism was negatively associated. Participants reported frequent seizures and high comorbidity, averaging 4.2 conditions. These results suggest personality, particularly the Big Five, may influence therapy outcomes in PNES. Larger studies are needed to confirm and expand on these findings.

Introduction

PNES are episodes that mimic epilepsy but occur without abnormal EEG activity [1]. PNES accounts for up to 20 percent of patients referred to epilepsy centers and creates heavy medical and social burdens [1]. Many patients report trauma histories and psychiatric conditions such as depression, anxiety, or PTSD [2,3].

Psychotherapy is the best supported treatment for PNES. CBT shows strong evidence for reducing seizure frequency and improving quality of life [4,5]. Other approaches, such as trauma-focused therapies, DBT, mindfulness, and psychodynamic therapy, are also used [6].

Personality may influence therapy response. The Big Five model describes five broad traits: openness, conscientiousness, extraversion, agreeableness, and neuroticism. These traits affect coping, emotional control, and engagement with therapy [7]. Studies link high neuroticism to worse PNES outcomes [8]. However, little research directly explores Big Five traits and therapy effectiveness in PNES. This study examines these links while also describing seizure frequency and comorbidity in the sample.



Methods

Participants

Twenty-five people with self-reported PNES completed an anonymous online survey. All gave consent for their responses to be used in this project.

Survey

The survey asked about participants' experiences with therapy, including which therapies they had tried, which one they found most helpful, and how effective their most helpful therapy was on a five-point scale. It also collected information on psychiatric diagnoses, seizure frequency, and self-reported Big Five personality trait scores (given as percentages).

Ethics Statement

This was an independent student-led project. Responses were anonymous and no identifying information was collected. All participants gave consent. Because the project was educational, anonymous, and minimal risk, IRB approval was not required.

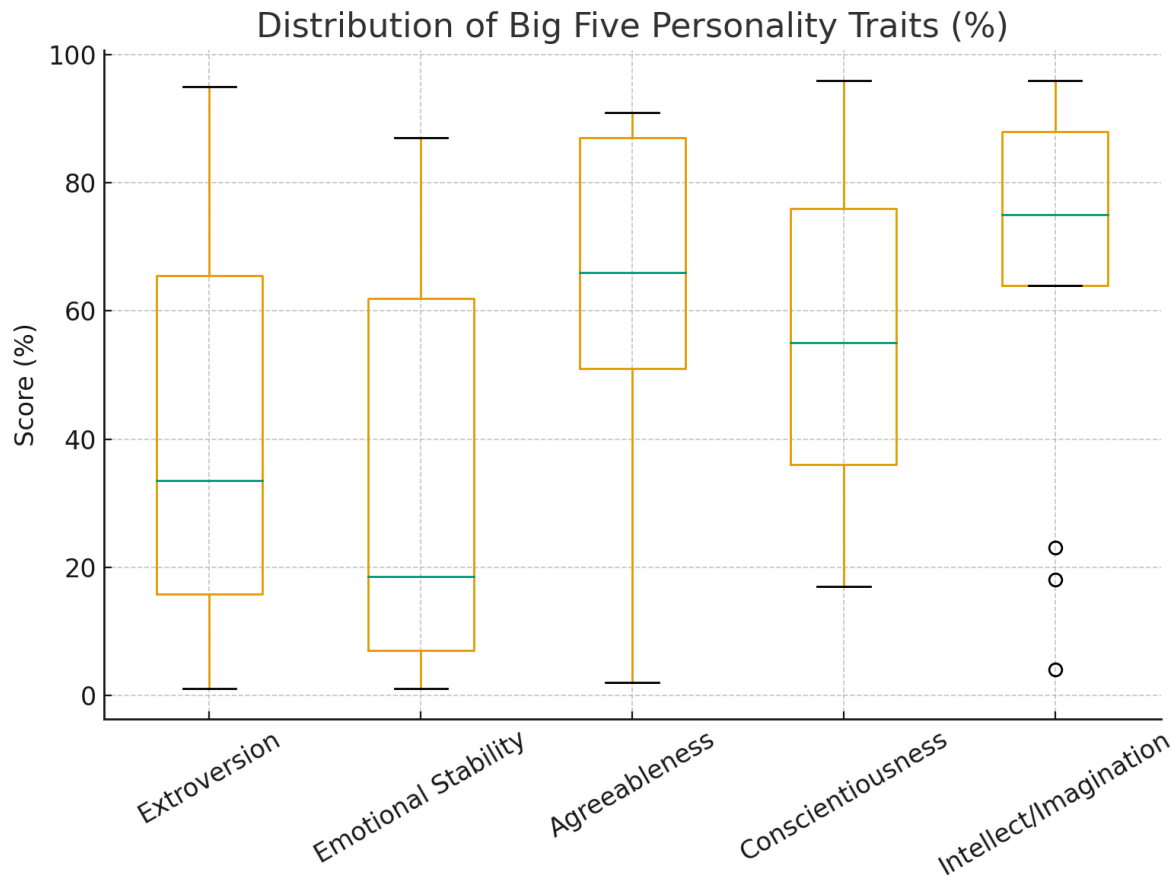
Results

Personality Traits (Big Five)

Participants reported their scores across the Big Five personality dimensions (see Figure 1). On average, the group tended to fall around the mid-range for Extroversion, though a few participants leaned strongly toward either high or low extroversion. Emotional Stability showed more variability, with several individuals reporting very low stability, suggesting higher levels of anxiety or mood fluctuation. Agreeableness and Conscientiousness were more balanced, with scores spread across low to high ranges. Finally, Intellect/Imagination (often related to openness to experience) tended to be higher overall, with multiple participants scoring well above average.

Figure 1

Distribution of Big Five Personality Traits among PNES participants



Therapies

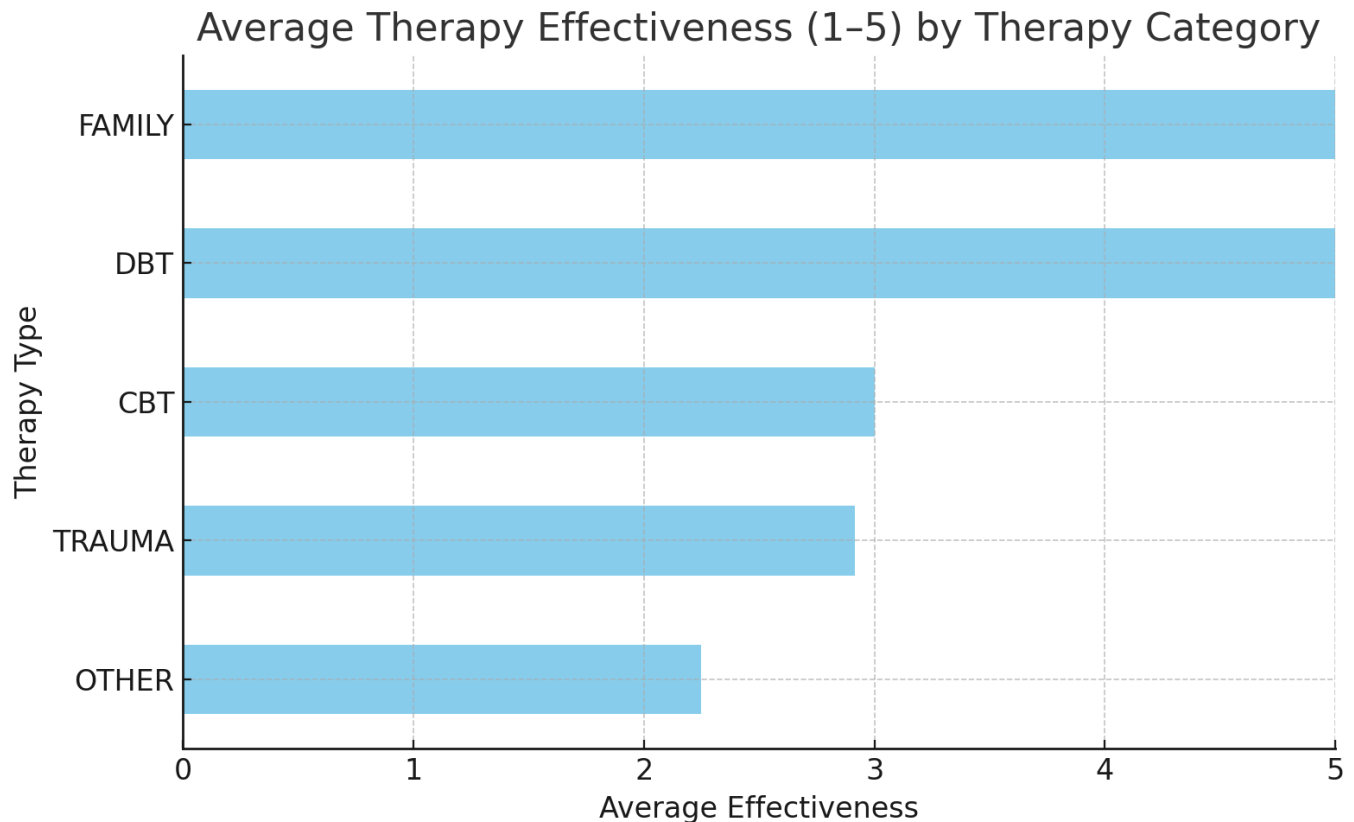
Trauma-focused therapy was most frequently rated as the most helpful, with nearly half of participants identifying it as beneficial. Cognitive Behavioral Therapy (CBT) followed, though it was reported by a much smaller proportion. A few participants also mentioned other approaches such as Dialectical Behavior Therapy (DBT), Eye Movement Desensitization and Reprocessing (EMDR), or supportive therapy, though these were less common.

Effectiveness

Across all participants, the average effectiveness rating of the most helpful therapy was 2.9 out of 5 (see Figure 2), with a median of 3. Higher openness to experience, conscientiousness, and agreeableness were positively correlated with effectiveness, suggesting that individuals who scored higher on these traits tended to benefit more from therapy. Conversely, neuroticism (low emotional stability) was negatively correlated with effectiveness, indicating that those with higher levels of instability reported less improvement.

Figure 2

Reported effectiveness of therapy types among PNES participants



Note. Bars represent the average effectiveness score (1–5 scale)

Seizure Frequency

Participants reported a wide range of seizure frequencies. Over one-third experienced between one and six seizures per week, while about one-third reported one to four seizures per month. A smaller portion experienced daily seizures, and some reported seizures less than once per month. Only one participant indicated that they were not currently experiencing seizures.

Comorbidities

Participants averaged 4.2 diagnoses (range 1–7). Anxiety, depression, PTSD, and ADHD were most common.

Limitations

The study had several limitations. The sample size was small, which restricts the ability to generalize results to the wider PNES population. All diagnoses and personality scores were self-reported rather than clinically verified, and the Big Five traits were measured in a

non-standardized way. These factors mean that the findings should be interpreted as exploratory rather than conclusive.

Discussion

This study suggests that trauma-focused therapy is most often seen as effective for PNES. Big Five traits, especially openness, conscientiousness, and agreeableness, may increase therapy effectiveness, while neuroticism may lower it. These results fit existing research linking trauma to PNES [9] and supporting CBT for seizure reduction [4,5]. Personality may help explain differences in therapy response.

When considering the Big Five, openness appears to play a particularly strong role. Participants with higher openness scores reported better outcomes. This trait is often linked to curiosity, tolerance for new experiences, and flexibility in thinking. In therapy, these qualities may make patients more receptive to exploring trauma, practicing new coping skills, and adjusting perspectives. Conscientiousness also showed a positive relationship with therapy effectiveness. Higher conscientiousness can reflect diligence, organization, and persistence, all of which support attending sessions consistently and practicing therapeutic skills outside of the therapy room.

Agreeableness was also positively related to perceived effectiveness. Individuals high in agreeableness tend to be cooperative and trusting, which can strengthen the therapeutic alliance, an important predictor of positive outcomes across many modalities. In contrast, neuroticism was negatively associated with effectiveness. This is consistent with prior findings that high neuroticism contributes to emotional instability, avoidance, and greater stress sensitivity [7,8]. These tendencies may interfere with therapy by making it harder for patients to tolerate distress or remain engaged in challenging sessions. Extraversion, though less strongly correlated than other traits, still showed a modest positive trend, suggesting that sociability and comfort with interpersonal interaction may also play some role.

These results provide preliminary evidence that personality profiles may guide how well individuals respond to therapies for PNES. If confirmed by larger studies, clinicians could use personality assessments to match patients to interventions more effectively. For example, patients with high openness and conscientiousness might be strong candidates for trauma-focused therapies, while those with high neuroticism may benefit from interventions that emphasize emotional regulation and stress tolerance before trauma processing.

It is important to note that these results are exploratory. Self-reported personality percentages are not equivalent to validated Big Five inventories. Even so, the observed patterns align with theoretical expectations and highlight an area where more rigorous research could contribute significantly to clinical practice.



Conclusion

This exploratory study suggests that personality traits meaningfully shape therapy outcomes in PNES. Openness, conscientiousness, and agreeableness were linked to better outcomes, while neuroticism was linked to poorer ones. Trauma-focused therapies were most often reported as helpful. Future large-scale, validated studies could help develop personality-informed treatment approaches, improving care for this underserved population.

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