

**PERAN NEUROTICISM TERHADAP FLEKSIBILITAS KOGNITIF:
STUDI EVENT-RELATED POTENTIAL**

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Abstract. Global conditions that are uncertain, volatile, and disruptive require individuals to have cognitive flexibility in their daily lives. One factor that can influence cognitive flexibility is the personality trait of neuroticism. This study aims to investigate the role of the personality trait of neuroticism in cognitive flexibility using the Event-related Potential (ERP) technique. The type of research used is comparative quantitative. The participants are 38 students aged 20-30 years. Participant screening was reviewed based on neuroticism levels (high and low) using the BFI-2 scale. Cognitive flexibility was measured using a cognitive task switching task, and brain activity was monitored using EEG on the ERP N200 and P300 components. EEG data was collected using the event-related potential (ERP) technique. Data analysis was performed using the independent samples T-test and Mann-Whitney statistical techniques. The research findings are inconsistent with arousal-based and attentional control theories, which predict that individuals with high neuroticism will have poorer performance and greater neural responses. The inconsistency of the results compared to previous studies is likely influenced by the contextual nature of the relationship between neuroticism and executive function, the characteristics of the tasks used, and the limitations of personality measurement using self-report methods.

Keywords: *cognitive flexibility, neuroticism, event-related potentials (ERPs), task switching*

Abstrak. Kondisi global yang bersifat tidak pasti, berubah-ubah, dan penuh disruptsi menyebabkan individu memerlukan fleksibilitas kognitif dalam menjalani keseharian. Salah satu hal yang dapat memengaruhi fleksibilitas kognitif adalah sifat kepribadian *neuroticism*. Penelitian ini bertujuan untuk menyelidiki peran sifat kepribadian *neuroticism* dengan fleksibilitas kognitif menggunakan teknik *Event-related Potential* (ERP). Jenis penelitian yang digunakan adalah kuantitatif komparatif. Partisipan adalah mahasiswa berusia 20-30 tahun yang berjumlah 38 orang. Skrining partisipan ditinjau berdasarkan tingkat *neuroticism* (tinggi dan rendah) melalui skala BFI-2. Pengukuran fleksibilitas kognitif akan dinilai menggunakan tugas kognitif *task switching* dan dipantau aktivitas otaknya menggunakan EEG pada komponen ERP N200 dan P300. Data EEG diambil menggunakan teknik *event related Potential* (ERP). Analisis data akan dilakukan dengan teknik statistika *independent samples T-test* dan *Mann-Whitney*. Temuan penelitian tidak sejalan dengan *teori arousal-based* maupun *attentional control theory* yang memprediksi individu dengan *neuroticism* tinggi akan memiliki performa lebih buruk dan respons neural yang lebih besar melalui amplitudo komponen N200 dan P300. Inkonsistensi hasil dibanding penelitian sebelumnya kemungkinan dipengaruhi oleh sifat kontekstual hubungan *neuroticism* dengan fungsi eksekutif, karakteristik tugas yang digunakan, serta keterbatasan pengukuran kepribadian dengan metode *self-report*.

Kata kunci: *fleksibilitas kognitif, neuroticism, event related potential (ERP), task switching*