

Publication

Association of a functional BDNF polymorphism and anxiety-related personality traits

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Rationale: Converging lines of evidence point to brain-derived neurotrophic factor (BDNF) as a factor in the pathophysiology of depression. Recently, it was shown that the Val allele of the BDNF Val66Met substitution polymorphism showed a significant association with higher mean neuroticism scores of the NEO-Five Factor Inventory (NEO-FFI) in healthy subjects, and previous studies suggested the Val allele to be increased in bipolar disorder families. The association to anxiety-related traits has not been investigated so far. Methods: We tested a total of 343 unrelated subjects of German descent (171 male, 172 female, age: 39.0 \pm 14.6 years) who were carefully screened for psychiatric health. The self-ratable State Trait Anxiety Inventory (STAI), which allows anxiety to be quantified as a comparatively stable personality trait, and the NEO-Five Factor Inventory (NEO-FFI) was applied. Results: In the trait-related anxiety score, a significant ($F = 3.2$, $df = 2$, $p < 0.042$) effect of the genotype was observed with higher levels of trait anxiety in Val/Val (35.0 \pm 7.4) compared to Val/Met (33.4 \pm 6.5) and Met/Met (32.0 \pm 4.6) genotypes. The NEO neuroticism scores were also higher in Val/Val (29.5 \pm 7.0) than in Val/Met (28.4 \pm 6.5) or Met/Met (26.8 \pm 5.8) genotype, but not at a significant rate. Conclusions: Our findings support the hypothesis that anxiety- and depression-related personality traits are associated with the BDNF polymorphism although the explained variance is low.

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