

ABSTRACT

Antecedents of Borderline Personality Disorder and Antisocial Personality Disorder: An Examination of Gene X Environment Interactions

by

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Current thinking suggests that genotypes associated with impulse-control disorders and negative emotionality, such as monoamine oxidase-a (MAOA), interact with negative early environmental factors like childhood maltreatment and develop into the disorders know as Borderline Personality Disorder (BPD) and Antisocial Personality Disorder (ASPD). Using existing data from a prospective cohort design study of the consequences of child abuse and neglect, participants represent individuals with documented histories of child abuse and neglect and a matched comparison group that were followed up into adulthood and interviewed ($N = 896$). A subsample of 631 participants gave permission for DNA extraction and analyses during a follow-up medical status exam. The final sample used in this study consisted of 592 participants as we restricted analyses to White, non-Hispanic and Black, non-Hispanic individuals. Official reports of child maltreatment were collected from court records during the years 1967 to 1971, while retrospective self-reports were collected at both the 1st and 2nd interviews. BPD, ASPD, BPD symptoms, and ASPD symptoms were measured with a structured interview of DSM-III-R BPD criteria. MAOA genotype was coded into two unique variables; DC1, which represented males with one 3-repeat and females with two 3-repeats (low MAOA activity) compared to all other genotypes and DC2 represented the heterozygous females with the 3,4-genotype compared to all other genotypes. Multiple logistic and OLS were conducted to

analyze the main effect of each independent variable and any interactions in the prediction of one of the six dichotomous dependent variables. All analyses controlled for age, sex, and race. We hypothesized that childhood maltreatment will predict increased risk for BPD, BPD symptoms, ASPD, ASPD symptoms, impulsivity, and suicide attempts. However, similar to Widom, Czaja, & Paris (2009), we expected that males but not females, would show an association between childhood abuse and neglect and BPD. We also did not expect that there will be any differences in these relationships by race (e.g., Whites & Blacks). However, in regard to MAOA genotype, based on a previous publication using this data (Widom & Brzustowicz, 2006), we hypothesized that MAOA genotype would moderate the relationship between childhood maltreatment and our six dependent variables. The results of the present study childhood maltreatment predicted ASPD diagnosis, ASPD symptoms, a lifetime history of suicide attempts, and impulsivity. Unexpectedly, we did not observe a relationship between BPD diagnosis and childhood maltreatment, although there was a relationship between childhood abuse and neglect and number of BPD symptoms. Several differences by race and sex, which indicate that there may be other environmental and contextual factors that may be influential in the development of these disorders in disadvantaged groups. Furthermore, we only observed one significant 3-way interaction suggesting that the heterozygous MAOA genotype (3-,4-) was protective for Black females with a history of childhood maltreatment. Due to the limited nature of MAOA genotype studies in Black females, it is difficult to put these results into context and future research is needed to better understand the impact of MAOA genotype in this population. Overall, our results the significant relationship between childhood maltreatment and personality psychopathology in adulthood.