

The Serotonin Transporter Gene Moderates the Effect of Childhood Socioeconomic Status on Self-Esteem in Adulthood

Low self-esteem is associated with poor health outcomes. Studies suggest that social support, socioeconomic status (SES), parental factors, maltreatment and stressful life events may influence self-esteem level and trajectory. Further, although no large molecular genetic studies on self-esteem exist, childhood environmental risk has been shown to interact with a serotonin transporter gene polymorphism (5HTTLPR) to predict adulthood depression—a correlate of self-esteem. Thus, the current project examined the effects of the 5HTTLPR, as well as known environmental risk factors, and their interaction (GxE) on self-esteem.

Methods: A subsample of 1199 unrelated participants from the national study of adolescent health (AddHealth) was analyzed. Ages ranged from 10-20 at baseline; follow-up data was collected approximately 1.5 and 7 years later. **Results:** Tested as a latent variable in a structural equation model (SEM), parental factors, social support and stressful life events, were associated with self-esteem during adolescence (1.5 year follow-up) but not self-esteem 7 years later in adulthood. In contrast, indicators of SES—housing and neighborhood conditions—were only associated with self-esteem in adulthood. This association was not better accounted for by retrospective reports of childhood maltreatment. In the genetic analyses, ANOVA showed that the 5HTTLPR influenced self-esteem ($p < .05$), an effect that was not moderated by race or sex. Individuals carrying an 's' variant of this polymorphism had lower self-esteem at all three time points—adolescence through adulthood—than individuals who carried the l/l genotype. Furthermore, in SEM, the 5HTTLPR moderated the effect of adolescent SES on adulthood self-esteem ($p < .004$). Carriers of the 's' allele who lived in low SES conditions during adolescence reported lower self-esteem in adulthood than individuals in a higher SES environment. In contrast, individuals with the l/l genotype were protected from the deleterious effects of low SES and reported high self-esteem in adulthood, regardless of their SES in adolescence. **Discussion:** These findings are in line with recent GxE effects reported in the depression literature. Examining GxE effects may be important for helping us understand the causes, and even the consequences, of low self-esteem and psychological health as a whole.