Children's Hospital of Philadelphia PolicyLab

NR3C1 Methylation as a Moderator of the Effects of Maternal Support and Stress on Insecure Attachment Development

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We examined the prediction that the interaction between Glucocorticoid Receptor Gene (NR3C1) methylation, stress, and experienced maternal support predicts anxious and avoidant attachment development. This was tested in a general population sample of 487 children and adolescents (44% boys, Mage = 11.84, SDage = 2.4). These children were followed over a period of 18 months. In line with the prediction, we found that NR3C1 methylation moderates the effect of maternal support during stress on anxious attachment development 18 months later. More stressed children who experienced less maternal support reported increased anxious attachment when their NR3C1 gene was highly methylated. This effect could not be explained by children's level of psychopathology. No effects were found for attachment avoidance. These data provide the first prospective evidence that epigenetic processes are involved in attachment development. (PsycINFO Database Record).

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