

## Maternal Prenatal Anxiety and Children's Externalizing and Internalizing Behavioral Problems: The Moderating Roles of Maternal-Child Attachment Security and Child Sex

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### Abstract

**Background:** Prenatal anxiety is associated with child behavioral problems. Prenatal anxiety is predictive of postnatal anxiety which can interfere with the security of maternal-child attachment and further raise the risk of child behavior problems. Secure maternal-child attachment is essential for optimal emotional health. Sex influences the type of behavior problem experienced. There is a gap in understanding whether attachment security and the sex of the child can moderate association between prenatal anxiety and children's behavioral problems.

**Objective:** To examine the association between prenatal anxiety and child behavioral problems and to test the moderating effects of attachment security and child sex on the association between prenatal anxiety and child behavioral problems.

**Methods:** Secondary analysis of data from 182 mothers and their children, enrolled in the Alberta Pregnancy Outcomes and Nutrition Study using Hayes' (2013) conditional process modeling.

**Results:** Prenatal anxiety was associated with both externalizing ( $b = -0.53$ ; standard error (SE) = 0.20;  $p = 0.009$ ) and internalizing ( $b = -0.32$ ; SE = 0.13;  $p = 0.01$ ) behaviors only in children with an insecure style of attachment. Child sex did not moderate the association between prenatal anxiety and children's behavioral problems.

**Conclusions:** Attachment security moderated the association between prenatal anxiety and children's externalizing and internalizing behavioral problems.

**Keywords:** Moderation, attachment security, prenatal anxiety, externalizing problems, internalizing problems, quantitative research