

## **Abstract**

Researchers commonly assume that positive parenting and constructive parent-child-relationships contribute to positive developmental outcomes in adolescence. Conversely, non-constructive parenting and negative parent-child-relationships are associated with adolescent problem behaviors. However, a growing body of evidence suggests that these effects are moderated by adolescents' personal characteristics and by genetic and physiological processes in particular. Four studies from Belgium and the Netherlands, which concentrate on topics as diverse as experienced stress, attachment, social anxiety, and low self-control, present new findings on this complex interplay between parenting and biology. Study 1 showed that greater stress reactivity was related to lower levels of daily hassles (including some family-related hassles), but this association was more pronounced when the cortisol receptor gene (NR3C1) showed decreased functionality (due to a chemical process known as methylation). Study 2 demonstrated that greater parental support was associated with lower attachment anxiety, but only when stress reactivity was low. Study 3 found that higher levels of parental autonomy support were associated with lower levels of social anxiety in adolescents, but this association was moderated by variations across multiple genes related to oxytocin (as captured by so-called polygenic scores). Study 4 demonstrates how this approach can be extended to genetic variation across the entire genome (so-called Genome-Wide Association Studies or GWAS) as it interacts with perceived environmental stressors (including some family-related stressors) to affect adolescent self-control or lack thereof. The contributions from the different studies will be integrated by an expert discussant from the Netherlands who specializes in research on gene by environment interactions as they apply to interventions designed to improve parenting behavior.