Research consistently indicates that children born low birth weight are at increased risk for poor adjustment outcomes throughout development. Despite a relatively large literature, the mechanisms accounting for the association between birth weight and adjustment are not well understood. The current investigation examined the effects of birth weight and neonatal medical complications on children’s emotional and behavioral outcomes at age 2 (Study 1, N = 9074, 51.1% boys) and at age 10 (Study 2, N = 771, 48% boys). Although low birth weight was a significant predictor of toddler temperament characteristics (e.g., regulatory difficulties), it was a stronger negative influence on psychosocial functioning in late childhood. Importantly, the adverse effect of low birth weight on several of the age 10 outcomes was indirect through children’s health status at birth. Specifically, the associations between birth weight and school-aged adjustment difficulties related to anxious/shy behavior, cognitive functioning/inattention, perfectionism, and social problems were mediated by neonatal medical complications.