

Obesity modifies link between birth weight, metabolic phenotypes

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Associations between lower birth weight (BW) and adverse metabolic phenotypes are more pronounced in children with obesity, according to a study [published](#) in the July issue of *eBioMedicine*.

Sara Elizabeth Stinson, Ph.D., from the University of Copenhagen in Denmark, and colleagues used data from the cross-sectional HOLBAEK Study with 4,263 participants to examine the modifying effect of childhood obesity on the association between BW and a polygenic score (PGS) for BW with [cardiometabolic risk](#) in children and adolescents.

The researchers found that BW and a PGS for BW were associated with cardiometabolic risk and plasma protein levels in childhood and adolescence.

The associations between BW and measures of [insulin resistance](#) were modified by childhood obesity, including Homeostasis Model Assessment for Insulin Resistance (−0.12 and −0.04 for obesity and normal weight, respectively), c-peptide (−0.11 and −0.02 for obesity and normal weight, respectively), and [systolic blood pressure](#) standard deviation score (−0.12 and −0.06 for obesity and normal weight, respectively). The associations between BW and plasma levels of 14 proteins were also modified by [childhood obesity](#).

"This study underlines the importance of early intervention and prevention in the effort to combat the pandemic of obesity and cardiometabolic disease," the authors write.

More information: Sara Elizabeth Stinson et al, The interplay between birth weight and obesity in determining childhood and adolescent cardiometabolic risk, *eBioMedicine* (2024). [DOI: 10.1016/j.ebiom.2024.105205](#)

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