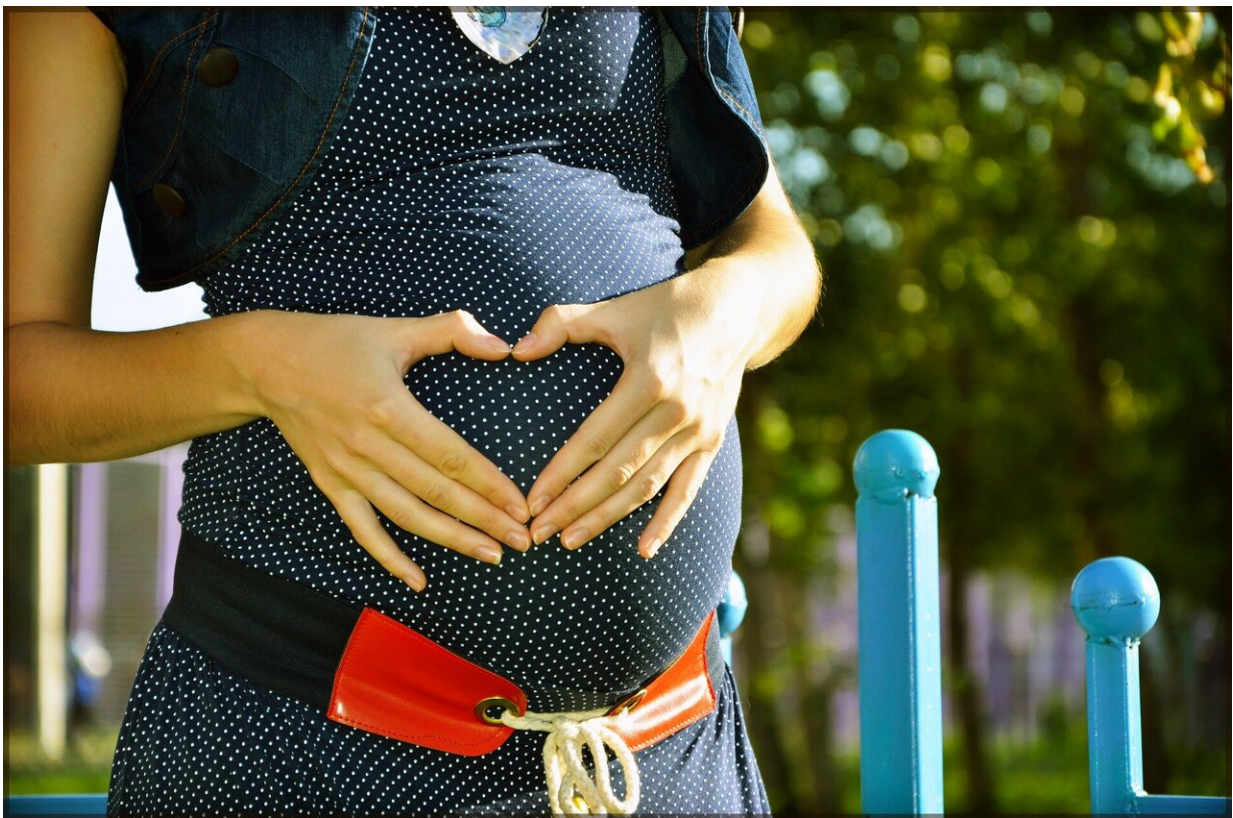


# Links between neighborhood risk and birth outcomes, maternal depression and gestational diabetes

September 1 2021

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Two new studies released by the University at Albany School of Public Health shed light on different factors impacting the health of mothers

and newborns, with one study finding a link between neighborhood risk and birth outcomes, and a second indicating a relationship between maternal depression and gestational diabetes.

## **Neighborhood risk and birth outcomes**

This [interdisciplinary study](#) published in the *International Journal of Environmental Research and Public Health* was based on the researchers' belief that both individual-level risks and neighborhood risks are known to often occur simultaneously for [pregnant women](#), but the specific relationship between a woman's neighborhood conditions and birth outcomes is understudied.

Led by Allison A. Appleton, an associate professor in the Department of Epidemiology & Biostatistics, the team studied a multi-ethnic and socioeconomically diverse cohort of 239 pregnant women and their infants participating in the Albany Infant and Mother Study, an observational, prospective cohort study.

Women enrolled on average at their 27 weeks gestation appointment, and completed questionnaires assessing demographic factors, [health histories](#), pregnancy behaviors, and psychosocial and [environmental factors](#). Following the birth, study physicians conducted a structured medical record review to obtain clinical information on maternal health, delivery and infant characteristics.

The results showed that favorable neighborhood conditions, such as access to greenspace or environmental opportunity, promoted the growth of heavier and longer infants and reduced the risk of intrauterine growth restriction (a complication in which the baby does not grow as expected in the womb).

"There are a number of factors that can influence the health and

development of a newborn, ranging from genetics to environmental conditions and much in between," said Appleton. "These risks are important to understand and research further, because things like birth size, head circumference and intrauterine growth restriction are considered to be potential indicators of future health risk later in life," said Appleton.

## **Depression and gestational diabetes**

Gestational diabetes is a form of diabetes diagnosed during pregnancy in women who experience high blood glucose levels. According to Margaret (Meg) Versteegen, first author of the paper and recent DrPH graduate, the causes are complex and not fully understood, but it is becoming increasingly common and has significant implications for infant and mother morbidity and mortality.

Again using data from the Albany Infant and Mother Study, the UAlbany team observed 300 pregnant women who received [prenatal care](#) an obstetrics clinic in upstate New York between June 2015 and February 2018, and who enrolled in the study at around 27 weeks gestation.

Mothers self-reported exposures, stressors and [depressive symptoms](#) both during and prior to their pregnancy using a set of questionnaires, and data was also abstracted from infant and maternal medical records.

The findings, published in *BMC Pregnancy and Childbirth*, indicated a significant association between maternal depression and the development of [gestational diabetes](#) where women with higher levels of depressive symptoms were at a higher risk for developing gestational diabetes.

"These findings underscore the importance of considering both psychosocial factors and biological variables in the development of

gestational diabetes," said Versteegan.

**More information:** Allison A. Appleton et al, Prenatal Exposure to Favorable Social and Environmental Neighborhood Conditions Is Associated with Healthy Pregnancy and Infant Outcomes, *International Journal of Environmental Research and Public Health* (2021). [DOI: 10.3390/ijerph18116161](https://doi.org/10.3390/ijerph18116161)

Margaret Versteegen et al, Maternal depression, adverse childhood experiences, and social support in relation to gestational diabetes risk: results from the Albany Infant and Mother Study (AIMS), *BMC Pregnancy and Childbirth* (2021). [DOI: 10.1186/s12884-021-03814-5](https://doi.org/10.1186/s12884-021-03814-5)

Provided by University at Albany

Citation: Links between neighborhood risk and birth outcomes, maternal depression and gestational diabetes (2021, September 1) retrieved 2 May 2024 from <https://medicalxpress.com/news/2021-09-links-neighborhood-birth-outcomes-maternal.html>

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