

Risk of adolescents being overweight impacted by neighborhood education, income levels

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A new Kaiser Permanente study found an increased risk for becoming overweight or obese among normal-weight 18-year-olds who lived in neighborhoods with lower education or income levels. The study, published today in *Pediatric Obesity*, found that over a four-year period, 25 percent of these young adults became overweight or obese.

In the past 30 years, [obesity](#) has more than doubled in children and quadrupled in adolescents, with more than one-third of children and adolescents found to be overweight or obese in 2012, according to the Centers for Disease Control and Prevention.

"Emerging adulthood is a critical time period for excess weight gain due to a variety of factors, including many teenagers leaving home for college and having more freedom and access to food," noted Deborah Rohm Young, PhD, study senior author and director of behavioral research, Kaiser Permanente Southern California, Department of Research & Evaluation. "Our study found that living in a disadvantaged place puts teens at an increased risk for being overweight or obese. Although we did not explore potential reasons for this increase, factors may include cultural norms, as well as lack of access to public parks and grocery stores."

According to the CDC, social determinants of health, which are the conditions in the environments in which people are born, live, learn,

work, play, worship and age, affect a wide range of health, functioning, and quality-of-life outcomes and risks.

A major strength of the study is that it examined the independent effects of gender, race/ethnicity and neighborhood-level education and income on incidence of overweight and obesity. Researchers analyzed the electronic health records of 22,823 racially/ethnically diverse Kaiser Permanente members in Southern California who were 18 years old in 2008 and followed them for four years.

In this study, the definition of overweight and obesity is based on the sex-specific body mass index-for-age growth charts developed by the CDC. All of those who were studied, with the exception of those who were Asian and Pacific Islanders, were normal weight based on a body mass index (or BMI) less than 25. Researchers utilized a lower BMI threshold for Asians—less than 23—based on recommendations from the World Health Organization, which demonstrated the increased risks associated with obesity, such as diabetes and hypertension, occur at a lower BMI among this population compared with other racial/ethnic groups.

Over the course of four years, researchers found about 23 percent of the normal-weight 18-year-olds living in neighborhoods with low education became overweight and about 2 percent of those living in lower-income neighborhoods became obese. In addition, females and blacks had almost 1.7 and 1.3 times the [increased risk](#) compared with males and whites, respectively, for being overweight or obese. Asians and Pacific Islanders were almost three times more likely to become overweight compared with whites when using a BMI of less than 23.

"This study suggests that a teenager who is currently at a healthy weight can still be at risk of becoming [overweight](#) or obese in a short period of time. This seems especially of concern in the presence of a variety of socioeconomic factors," said Young. "In addition, it is important to use

the lower BMI for Asians to ensure we are identifying individuals who may be at risk for obesity and related conditions such as diabetes."

Provided by Kaiser Permanente

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