Examining the influence of positive childhood experiences on childhood overweight and obesity

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BACKGROUND

Overweight and Obesity in Children
• Nearly 32% of children ages 2 to 19 in the United States were either overweight or obese. The prevalence of obesity in children is estimated at 17% with higher prevalence rates among racial-ethnic minorities and low-income households. 1
• Multiple disparities exist across groups: Higher rates of overweight or obesity among non-Hispanic Black children compared to non-Hispanic White children 1, 2
• Overweight or obesity prevalence is lower among children living in the highest income group. 2

Positive Childhood Experiences (PCEs)
• PCEs are essential experiences that engage the child and parents and foster overall wellness and healthy development. 2
• Safe, stable, nurturing environment
• Constructive social engagement opportunities
• Social-emotional competencies
• PCEs have been demonstrated to be protective against overweight or obesity among children ages 1 to 12 years. 3, 4
• Community and neighborhood level factors can influence the ability to engage in healthy behaviors 5

There has been limited research examining the association between PCEs and obesity. Further research is necessary regarding this association and whether certain types of PCEs are associated with overweight status or obesity. 3

RESEARCH QUESTION

Are positive childhood experiences associated with lower rates of overweight status and obesity in children and adolescents?

METHODS

National Survey of Children’s Health
• Data was drawn from the 2018-2019 National Survey of Children’s Health (NSCH) which is a nationally representative mail-in and online survey of parents or caregivers residing in households with at least one child between the ages of 0-17.

Measures
BMI Classification
• BMI is calculated based on parents’ recollection of the child’s height and weight and is sorted for age and gender into the following categories:

Underweight
• Less than the 5th percentile
Healthy Weight
• 5th percentile to less than the 65th percentile
Overweight
• 65th to less than the 85th percentile
Obese
• Equal to or greater than the 85th percentile

Positive Childhood Experiences
• Seven questions on the NSCH were chosen to assess PCEs. 6 These questions were then sorted following previous research 2, 6 into four broad categories:

1. Being in nurturing, supportive relationships
2. Living, developing, playing, and learning in safe, stable, protective, and equitable environments
3. Having opportunities for constructive social connection and to develop a sense of connectedness
4. Learning social and emotional competencies

Analytic Methods
• Descriptive statistics and bivariate analyses used to calculate frequencies, proportions, and unadjusted associations for each variable
• P-values < 0.05 were deemed statistically significant
• Multivariable regression models were used to examine the association between obesity and PCEs. Appropriate survey sampling weights, cluster, and strata used by the NSCH were included in analyses to ensure accurate model estimates.
• Analyses were conducted using the statistical software SAS.

RESULTS

Bivariate Analyses
• Among children reported to be overweight or obese: 43.5% were non-Hispanic Black, 17.6% were non-Hispanic White, 31.3% were Hispanic,
• Nearly a quarter of children who were overweight or obese lived below the federal poverty line (22.6%) and
• Nearly a third (32.5%) of children who were reported to be overweight or obese had experienced two or more ACEs.
• 22.2% of healthy weight children had experienced two or more ACEs

Positive Childhood Experiences by BMI Category

<table>
<thead>
<tr>
<th>Positive Childhood Experiences Across BMI Category</th>
<th>Among children ages 10-17, National Survey of Children’s Health 2018-2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>After school activities*</td>
<td>86.1%</td>
</tr>
<tr>
<td>Community volunteer*</td>
<td>42.6%</td>
</tr>
<tr>
<td>Guiding mentor*</td>
<td>88.1%</td>
</tr>
<tr>
<td>Connected caregiver</td>
<td>62.5%</td>
</tr>
<tr>
<td>Safe neighborhood*</td>
<td>61.5%</td>
</tr>
<tr>
<td>Supportive neighborhood*</td>
<td>54.8%</td>
</tr>
<tr>
<td>Resilient family*</td>
<td>42.7%</td>
</tr>
</tbody>
</table>

*Statistically Significant

Figure 2: Positive Childhood Experiences across BMI categories among children ages 10-17, National Survey of Children’s Health, Stratified by BMI

How could PCEs be protective?
• A constellation of factors may influence why the majority of PCEs were significantly associated with a reduced incidence of a child being overweight or obese in the unadjusted analyses.

Community Factors
• Opportunities for positive childhood experiences is determined by the neighborhoods, communities, and schools in which children live

DISCUSSION

How could PCEs be protective?
• A constellation of factors may influence why the majority of PCEs were significantly associated with a reduced incidence of a child being overweight or obese in the unadjusted analyses.

LIMITATIONS
• Parents may overstate socially desirable PCE events
• BMI calculated using the child’s age and parental reported height and weight
• NSCH selects households based on an address-based sampling system and does not include children who are homeless, undocumented, transient, or living in foster care families

REFERENCES

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