Neighborhood Disorganization and Weight: Structural Factors Affecting Adolescent Obesity

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Introduction

- Child and adolescent obesity is a national health concern (Wing andvey 2007; Must and Strauss 1999). Much of the prevention rhetoric is focused on individual diet and exercise behaviors. A sociological perspective provides a better understanding, recognizing that social and structural factors may limit individual choice.
- A right-skewed shift in the bell curve of child and adolescent weight distribution suggests an increase in cases of both obesity and severe obesity over time (Must and Strauss 1999).
- The purpose of this study is to examine associations between neighborhood disorganization and adolescent obesity and identify mechanisms that mediate those relationships.

Prior Research

- Neighborhood poverty has been linked with adolescent obesity (Truckenbrot et al. 2005; Lee et al. 2008).
- Neighborhood violent crime has been associated with inactivity, possibly through the disorganization will put individuals at risk.
- Social organization within a neighborhood is referring to resident's common expectations and values and their engagement with one another.
- When residents share expectations and values, informal social controls are maintained, which prevent crime (Shaw and McKay 1942; Sampson et al. 1999).
- Social organization is measured by racial composition, residential turnover, and concentration of poverty (Shaw and McKay 1942; Sampson et al. 1999).
- Social organization should serve as a protective factor against adolescent obesity, while disorganization will put individuals at risk.

Present Study

- Research Question: How do Neighborhood Disadvantage and Social Disorganization Affect Adolescent Obesity?
- Social organization within a neighborhood is referring to resident’s common expectations and values and their engagement with one another.
- When residents share expectations and values, informal social controls are maintained, which prevent crime (Shaw and McKay 1942; Sampson et al. 1999).
- Social organization is measured by racial composition, residential turnover, and concentration of poverty (Shaw and McKay 1942; Sampson et al. 1999).
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ADD Health

- ADD Health provides information on adolescent health and well-being among a nationally representative sample tracked over time, along with a contextual dataset that contains information on the social environment from the 1990 Census.
- 13,719 respondents were used for the analysis.

Data & Measures

- **Dependent Variable (Wave II):** Body Mass Index (BMI) ratio of weight to height
  - Individuals with a BMI of 30 or greater are considered obese
    - Underweight BMI <18.5
    - Normal BMI 18.5 and <25
    - Overweight BMI 25 and <30
    - Obese BMI >30
  - **Independent Variables (Wave I):**
    - Active Behaviors: Mean of reported times per week performing housework, playing sports, or actively playing
    - Sedentary Behaviors: Mean of reported hours per week spent watching videos, watching TV, and playing video games
    - Collective Efficacy Scale: Mean of respondent’s reported connectivity to neighbors
    - Neighborhood Poverty: Proportion persons with income in 1989 below poverty level
    - Turnover: Proportion of population 5 years and older living in the same house as 1985
    - Racial Heterogeneity: Neighborhood racial diversity

Control Variables:
- Family SES
- Family Composition
- Age
- Race/Ethnicity
- Gender

Multiivariate Regression Model for Adolescent Obesity

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Findings

- **Structural factors:** Higher levels of neighborhood poverty, residential turnover, and racial heterogeneity were found to have statistically significant associations with an increase in adolescent BMI.
- **Individual level factors:**
  - Higher levels of sedentary behaviors were found to have statistically significant associations with an increase in adolescent BMI.
  - Higher levels of family SES and active behaviors were found to have statistically significant associations with a decrease in adolescent BMI.

Conclusion

- **Structural factors influence adolescent BMI above and beyond individual behaviors.
- Future research will examine adolescent access to healthy food choices and sedentary play in the context of neighborhood disorganization.
- Future policy and prevention efforts should consider both individual behaviors and structural factors.

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