

# Why Are School Meal Policies Not Effective in Reducing Childhood Obesity?

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## INTRODUCTION

Childhood obesity is an ever-increasing epidemic in the United States, and many legal regulations have already been put in place to help control the issue through school meals. The National School Lunch Program (NSLP) is a federally assisted meal program run by the USDA's Food and Nutrition Service (FNS). It provides affordable lunches to 95% of public and non-profit schools in the US. For schools to receive funding, they need to provide nutritionally balanced meals and follow guidelines for preparation. The food must also follow guidelines for the amount of micro & macro nutrients in food, the amount of fruits/vegetables served, grain products must be 50% whole grain, and milk must be fat-free or unflavored low-fat. However, these regulations seem to have no effect on children's health and obesity rates, with some data even showing that children's weights have increased.

## OBJECTIVE

Our research investigated other factors that affect childhood obesity, which are not accounted for by government regulations on school meals.

## METHODS

- Literary Search using Academic Search Complete
- Key words: childhood obesity, School lunch policy, factors that effect childhood obesity, neighborhood, family, physical activity, and effect on low income children.

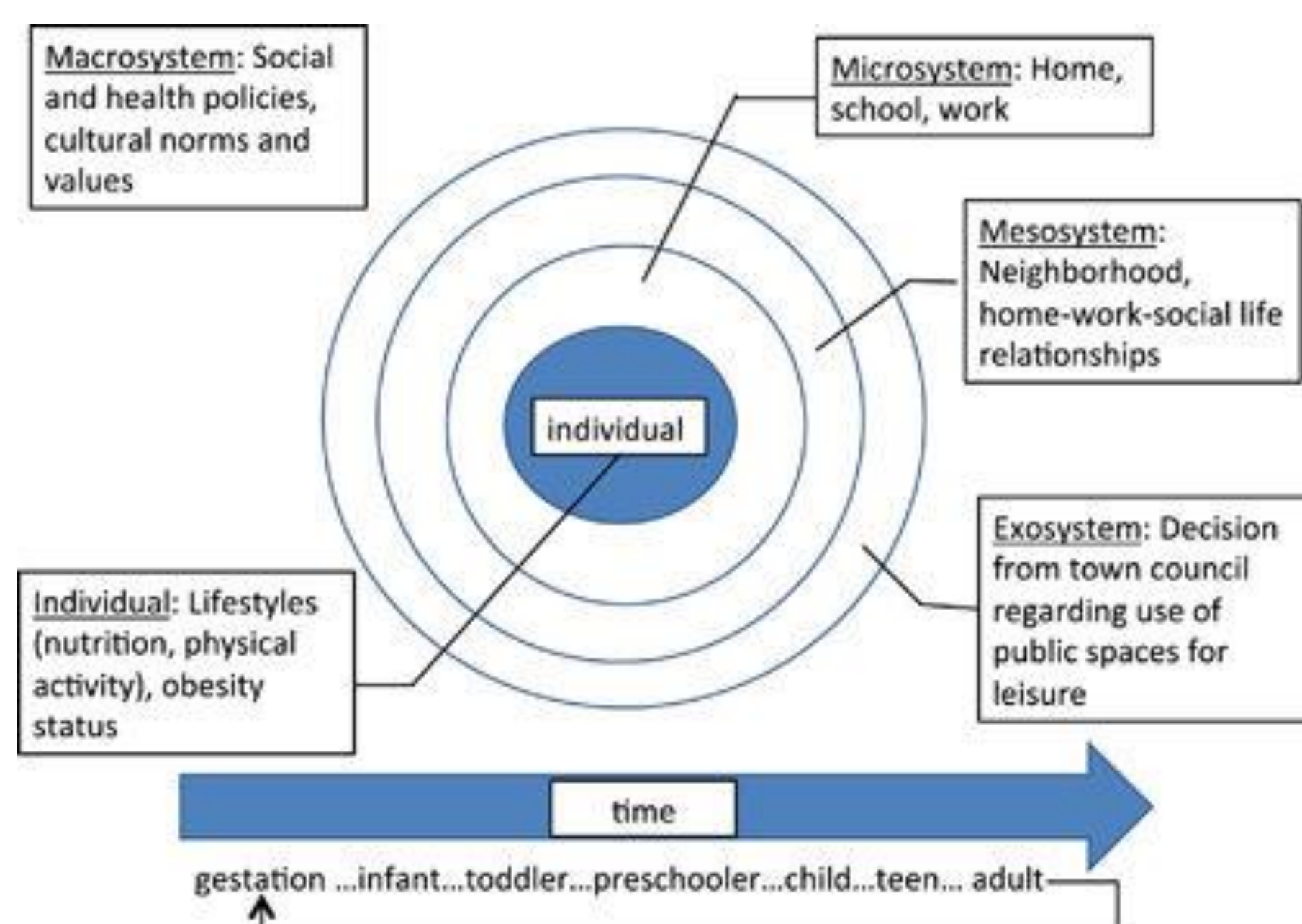


Figure 1: The multilevel components of the social-ecological model depicting how macro-, exo-, meso- and micro-systems shape lifestyle behaviors and maternal-child obesity risks (Pérez-Escamilla & Kac, 2013).

## RESULTS

### Multiple Factors Affect Childhood Obesity

- School Impact (Cluss et al., 2014; Story et al. 2006):**
  - Fruits/Vegetables are not appetizing.
  - Vending machines, fundraisers, and a la carte options still offer unhealthy foods
  - Staff/Teachers don't promote healthy habits in the classroom.
  - Schools focus on academics and not on physical activity
  - Students and families are not educated on the importance of good food choices and wellbeing.

- Family Influence (Ash et al. 2017; Gibson et al. 2016; Dewan et al. 2017; Trier et al. 2016) :**
  - Lower-income families and minorities are often underrepresented in childhood obesity interventions, leading to a misunderstanding of issues
  - These include: media usage, sleep cycles, family habits, and promotion of certain foods over others
  - Low-income is a significant predictor of children's BMI scores, especially with families with a medical history of obesity
  - The prevalence of obese parents in families with obese children is found to be 80%
  - Children in families where both parents worked were at higher risk of obesity

Manju Dewan / Family status: A contributing factor towards childhood and adolescent obesity

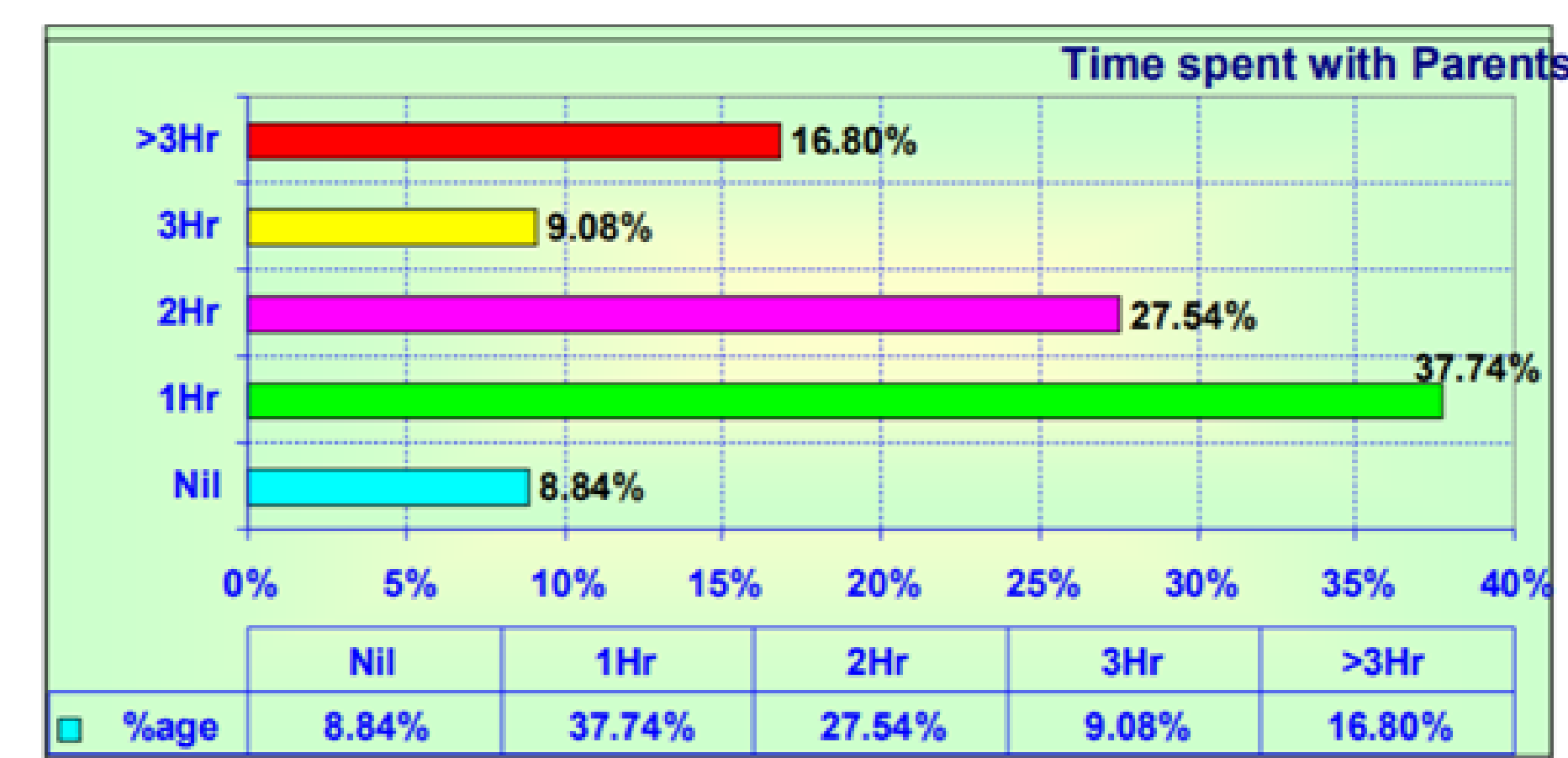


Figure 2: The graph demonstrates that the less time children spend with parents, the more likely they are to have a propensity for obesity. (Dewan)

- Neighborhood Influence (Hulst et al., 2013, Veugelers et al., 2008):**
  - High crime rates cause children to not engage in outdoor activity due to safety concerns.
  - Children who have access to parks and recreational facilities are more likely to engage in physical activity lowering their risk for obesity.
  - Access to shops within walking distance and with variety of fresh produce and healthier options were less likely to be or become obese.

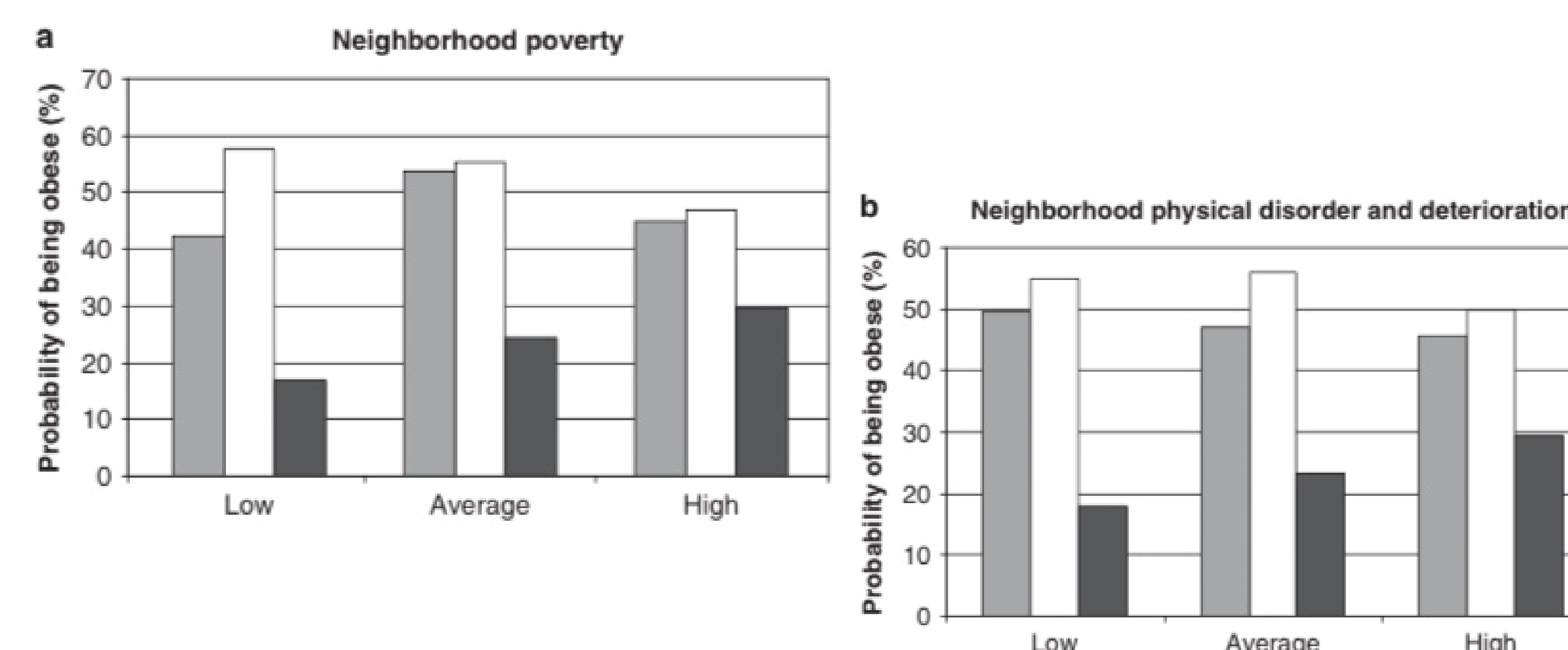


Figure 3: Probability of obesity as a function of neighborhood environment characteristics and family members among 417 families of the QUALITY study in 2005–2008. Probability of being obese plotted for a family where the child is a girl aged 9.57 years and where the mother or father within the household has a technical degree as level of education for (a) neighborhood poverty, (b) neighborhood physical disorder and deterioration. Gray: mother; white: father; black: child (Van Hulst, 2013).

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- Physical Activity Influence (Dobbins et al., 2001; Navti et al., 2017):**
  - Parents took self-report survey for their children's lifestyle
  - Children with moderate-to-high physical activity were less likely to be obese
  - Children with moderate-to-high sedentary lifestyles were more likely to be obese
  - Adults who participated in school-based physical activity programs were more active in adulthood
  - Educational-based programs are most effective in schools

## CONCLUSION

Interventions that include education on healthy behaviors, physical activity, family involvement, and improving neighborhood resources in addition to improving school meals have been shown to be effective in lowering obesity rates in children.

## FUTURE WORK

- Further research is needed to see how improvement in healthy eating affects BMI long-term.
- Investigate other health issues other than obesity that are affected by interventions.

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