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Charkarra Anderson-Lewis
University of Southern Mississippi, c.andersonlewis@usm.edu

Bonnie Harbaugh
University of Southern Mississippi, Bonnie.Harbaugh@usm.edu

Jerome R. Kolbo
University of Southern Mississippi, jerome.kolbo@usm.edu

Lei Zhang
Mississippi State Department of Health

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Public Opinion on Childhood Obesity as a Driving Force for Policy and Intervention Development

Charkarra Anderson-Lewis, Ph.D.¹ Bonnie Lee Harbaugh, Ph.D., R.N.,¹ Jerome R. Kolbo, Ph.D.,¹ Lei Zhang, Ph.D.²
The University of Southern Mississippi,¹ Mississippi State Department of Health²

Abstract

Childhood obesity is a complex issue in which evidence describing strategies and methods for prevention are needed. It is important that the public's perception of childhood obesity is understood. This includes determining attitudes about childhood obesity and assessing support for an array of policies and prevention initiatives. A multidisciplinary research team at The University of Southern Mississippi conducted the Mississippi Public Perception of Childhood Obesity telephone survey. Childhood obesity information was elicited from 1,352 Mississippi adults. Telephone interviewing was conducted using WinCATI on a sample selected using random-digit dialing. Data were weighted to reflect race, sex, and age distribution of the population. All analysis was performed using SPSS 14.0. There is widespread knowledge and understanding of the existence and problems resulting from or associated with childhood obesity. Mississippians have varying levels of concern, interest, and suggestions on how to address this problem. Data shows variation in their opinions by ethnicity, gender, age, and family composition; therefore, sensitivity to these disparities is warranted. Although more research is needed, obesity initiatives do exist and can be further used in Mississippi. To be successful, these initiatives require policy development, long-term strategies, and interventions based on solid evidence and best practices.

Key Words: Childhood Obesity; Public Opinion; Health Policy; Intervention Development

Introduction

Childhood obesity is on the rise and is a critical public health concern facing all Americans. The purpose of the study is to investigate public perceptions regarding childhood obesity in Mississippi in order to help formulate new health policies and develop obesity related interventions. Child overweight is the term used by the Centers for Disease Control and Prevention (CDC) but is also used interchangeably with child obesity, as a recent report by American Medical Association's expert Task Forcer¹. Children are classified as overweight if they are greater than or equal to the 95th percentile on the CDC sex-specific Body Mass Index (BMI) for age growth chart, or at risk for overweight if they are between the 85th and 94th percentiles on the CDC sex-specific BMI for age and growth chart².

Results from the 2003-2004 National Health and Nutrition Examination Survey (NHANES), using measured heights and weights, indicate that an estimated 17% of children and adolescents ages 2-19 years are overweight. Overweight increased from 7.2% to 13.9% among 2-5 year olds and from 11% to 19% among 6-11 year olds between 1988 and 1994 and again from 2003 to 2004. Among adolescents ages 12-19, overweight increased from 11% to 17% during the same period²⁻⁴. This trend suggests that the numbers are increasing for American youth, who will enter young adulthood already at risk for chronic health conditions related to their childhood obesity.

When the overweight definition is applied to data from earlier national health examination surveys, it is apparent that overweight in children and adolescents was relatively stable from the 1960s to 1980. However, from NHANES II (1976-1980) to NHANES III, the prevalence of overweight nearly doubled among children and adolescents. In the time interval between NHANES II and III, the prevalence of overweight among children ages 6-11 years increased from an estimated 7% to 11%, and among adolescents ages 12-19 years, increased from 5% to 11%. One of the national health objectives for 2010 is to reduce the prevalence of overweight from the NHANES III baseline of 11%. However, the NHANES 2003-2004 overweight estimates suggest that since 1994, overweight in youths has not leveled off or decreased, and is increasing to even higher levels. The 2003-2004 findings for children and adolescents suggest the likelihood of another generation of overweight adults who may be at risk for subsequent overweight and obesity related health conditions²⁻⁴.

Childhood obesity is of vital importance to the State of Mississippi, which has the highest rate of child obesity in the United States⁵. The prevalence of child obesity in Mississippi is well-documented, not only by NHANES (2004), but also by CAYPOS and by YRBSS data, which show Mississippi children to be more overweight than ever, causing an increase in child obesity rates nationally⁶⁻⁷. The health consequences of child obesity include: higher risk of developing particular diseases, such as but not limited to, type II diabetes, hypertension, high cholesterol, cancer, asthma, orthopedic problems, and others⁸⁻¹¹. Besides diseases, there are also risks of developing potentially life-threatening

psychological problems such as depression, eating disorders, discrimination and stigmatization, negative self image, and passivity and withdrawal from peers¹²⁻¹⁹.

The significance of childhood obesity in America has led to calls for urgent action with much attention focusing on prevention efforts²⁰⁻²². To help overcome obesity issues it is important to focus on the problem of childhood obesity and research solutions to those problems²³. Due to the complex nature of the many causes of childhood obesity, strategies likely to prevent childhood obesity must address many different social and environmental factors. The public's desirability of social actions which can be addressed in the political realm need to be better understood in order to develop effective policies and interventions^{3, 24-25}.

Because obesity has become a major concern for American youth, many governmental and nongovernmental national-level activities and/or advances related to childhood obesity have occurred in the past half-century. In 1956, the President's Council on Physical Fitness was founded in response to "concern about the physical fitness of America's children compared with their European counterparts"²⁶. In 1974, The Children's Advertising Review Unit was founded through the National Advertising Review council as a strategic alliance between the major advertising trade associations to promote responsible children's advertising²⁶. In 1994, the Division of Adolescent and School Health "cooperative agreement" funds were established at the CDC to help increase health eating in children. Ten states received the first round of funds in 1994. Twenty-three states received funds in the most recent awards in 2006²⁷. From 2001 to

2006, the VERB Youth Media Campaign was a national multiethnic, multimedia campaign targeted at youths ages 9-13 to encourage more physical activity and increase awareness of the importance of exercise. Despite successful results, the program was eliminated in 2006. In 2004, Preventing Childhood Obesity: Health in the Balance was released by the Institute of Medicine (IOM), following a Congressional request. The report called for placing a higher national priority on the dramatic rise in childhood obesity and outlines the need to engage a range of sectors including, government and the food industry and developing better strategies for obesity prevention and reduction²⁷. In 2005, We Can! Ways to Enhance Children's Activity and Nutrition program was launched by the United States Department of Health and Human Services (DHHS) to provide a resource for parents and caregivers to help children ages 8-13 in maintaining a healthy weight²⁸. In 2006, Food Marketing to Children and Youth: Threat or Opportunity? was released by IOM. According to this report, the food, beverage, and restaurant industry in the U.S. spends more than \$10 billion a year on marketing food and beverages to children and youth. The IOM committee recommends that this industry should improve its self-regulation or government should intervene with additional regulations and legislation²⁷. The increase in activities and initiatives over the past five years suggests that Americans are becoming more aware of the childhood obesity epidemic and the need for improvement.

Oliver and Lee conducted "the first study of public attitudes toward obesity and obesity policy" in the spring of 2001. These researchers found that most Americans were not seriously concerned with obesity and they showed low support for obesity-related

policies²⁹. More recently, researchers have found that Americans are seriously concerned about obesity and its impact on the nation³⁰⁻³². Harvard and APHA studies provide limited information concerning what policies and interventions are supported by the public. However, the Douglas study investigated (in more detail) public perceptions concerning intervention strategies to combat childhood obesity. The Douglas study also identified specific school, community, and media interventions that the public supports and opposes, and what consequences the public will accept in combating childhood obesity³⁰.

This study aimed to investigate public perceptions regarding childhood obesity in Mississippi. The main research questions are: 1) Is childhood obesity a personal issue or a community issue? 2) Should government play a significant role in reducing obesity? 3) What obesity related policies and interventions would be favored or opposed?

Methods

In this study, a state-wide sample was polled via telephone to obtain responses to questions related to childhood obesity using the Mississippi Public Perception of Childhood Obesity Survey. The protocol for this study was reviewed and approved by the Human Subjects Review Board at The University of Southern Mississippi. This telephone survey was presented to the respondents as voluntary and anonymous.

The sample consisted of a representative pool of Mississippians throughout the state. The sampling frame was purchased from the Survey Sampling International, and included 16,000 telephone numbers. The sample was randomly selected using the Random-Digit Dialing technique. The research team surveyed a total of 1,427 Mississippians. Among those, 44 respondents used non-residential telephone lines for the interview and 12 respondents refused to tell which type of telephone lines they were using. Five respondents were less than 18 years of age. Four respondents did not report their gender and age; therefore, the appropriate weights could not be assigned based on the post-stratification of data to approximate Mississippi's population distribution. As a result, a total of 75 respondents did not meet the selection criteria and were excluded from the analysis. The final analysis included 1,352 respondents.

The survey questions were modeled after questions in a representative national survey conducted by the Robert Wood Johnson Foundation (RWJF) and the Harvard School of Public Health so that comparisons could be made between Mississippi and available national data. The survey questions and response categories are listed in the box.

The survey was conducted by the Center for Research, Evaluation, Assessment, and Training Services (CREATeS) at The University of Southern Mississippi, using Computer-assisted Telephone Interviewing (WinCATI). The survey consisted of seven Demographic items (presence of one or more children <18 years of age in the home, race, gender, income, highest grade completed, and height and weight of adult respondent

[used to calculate BMI]). The survey also contained 17 questions related to attitudes about the seriousness of child obesity, whether obesity is a personal or community issue, the role government should play, and questions regarding attitudes about laws related to activity, nutrition, vending, advertising, taxes, and funding. Answer choices were written in a manner to appropriately relate to the question. For example, answer choices may be: favor, oppose, or no opinion; very serious, somewhat serious, not too serious, not at all serious, or no opinion; favor strongly, favor somewhat, neither favor nor oppose, oppose, oppose somewhat, or oppose strongly. The survey was circulated among a panel of five experienced researchers for face and content validity and to identify potential sources of error prior to its use.

Analyses were performed using frequencies, percentages and cross tabulations. The analysis was based on a total of 1,352 respondents. Among those 28% were men and 72% were women. This gender distribution is significantly different from the distribution of men and women in Mississippi's population. Also, respondents ages 65 years or older accounted for 26.5% of the sample, while they only accounted for 12% of that age group in the population. To compensate for these biases, sample data were weighted based on the 2005 Census Bureau population estimates by age group, race and sex, in the State of Mississippi. The survey weights were calculated and assigned to the respondents in data analyses.

To further analyze the data, respondents' weight status using BMI was calculated. BMI is a measure of body weight for a specified height and was computed for each

respondent based on height (in meters) and weight (in kilograms). The height in feet and inches is first converted to height in meters using the formula: Height (in m) = [(feet × 12) + inches] × 0.0254 m/in. The weight in pounds was then converted to weight in kilograms using the following formula: Weight (in kg) = Weight (in lbs) × 0.4536 kg/lb. BMI is defined as the individual's body weight divided by the square of his height. In this study, BMI was divided into the following categories: 1) underweight (BMI <18.5), 2) normal weight (18.5 ≤ BMI ≤ 24.9), 3) overweight (25 ≤ BMI ≤ 29.9), and, 4) obese (BMI ≥ 30).

The data management, post-stratification weights, and analysis were conducted using SPSS 14.0 (SPSS, Inc, Chicago, IL) to calculate summary statistics and to adjust these estimates to reflect the differences in the population using weights. SPSS frequency procedure was used to calculate percentages of overall perceptions on childhood overweight and its related questions. SPSS crosstabs procedure was used to calculate the perceptions among different subgroups, such as race, gender, age, education level, and BMI status. Though respondents' household incomes were asked in the survey, researchers did not conduct further analysis based on household income since over 53.3% of respondents refused to answer this question. For the question, "How concerned are you about your oldest child being or becoming obese, or seriously overweight?" we subset the data and analyzed respondents who have children in their household under the age of 18 using SPSS select cases procedure.

Results

About 95% of Mississippi adults surveyed consider childhood obesity to be a serious national problem (includes very serious and somewhat serious categories). However, Mississippians were almost evenly divided on whether reducing childhood obesity was a personal issue (46.7%) that kids and their families should deal with on their own, or a community issue (45%) that needs to be addressed by the entire community, including schools and community groups. Interestingly, this one question had the highest number of “no opinion” responses in the entire survey (8.3%). The almost evenly split responses and the number of “no opinions” suggests that there is not a consensus on this issue of personal responsibility, or the need for community action. About 56% of Mississippians thought that government should play a significant role in reducing obesity, while approximately 36.6% were against the government intervening. These findings indicate more agreement for a governmental response to childhood obesity, as opposed to a community or a personal issue orientation.

An issue on which a higher consensus was reached is one related to foods and drinks in schools. About 78.5%, 77.5%, and 73.4% of Mississippi adults favored passing a law to convert vending machines from carrying high-sugar, high-fat food to carrying healthy snacks and beverages in elementary, middle, and high schools respectively.

Respondents were asked whether they would favor or oppose a variety of school and government initiatives to fight obesity in children. More than half of the respondents favored nine of the 11 initiatives. The majority of Mississippians indicated that they would oppose two initiatives: “prohibiting television from running advertisements for

food and drinks like candy, chips, and soda during children’s programming,” and, “setting a limit on the number of fast food restaurants located near schools”. The most popular school initiatives included: requiring 30 minutes of daily physical activity for grades K-12 (94%), including nutrition/fitness/health in school curricula (92.2%), and offering only healthy lunches in school (86.5%). The most popular government initiatives included: funding recreation programs for children and teens (90.7%) and including nutritional information on fast food menus (84.8%).

When examining the perceptions of childhood obesity in Mississippians by race, gender, and age, more African Americans (76.4%) view childhood overweight as a very serious problem than Caucasians (70%) by a difference of 6.4%. About 17.8% of African Americans view this as somewhat serious compared to 25.5% of Caucasians. More women (76%) view childhood overweight as a more serious problem than men (68.2%) by a difference of almost 8%. However, when those who consider childhood overweight as somewhat of a problem are combined with those who believe it to be a very serious problem, the percentages of women (98%) and men (97%) indicate overwhelming and almost equal agreement that it is a problem. About 20.7% of females view this as somewhat serious compared to 24.7% of males. About 79.6% of respondents who were 55 years of age or older view childhood overweight as a very serious problem compared to 69.1% of those younger than 55 years old. Approximately 14.4% of older respondents (55+) view this as somewhat serious compared to 26% of younger respondents (<55).

When examining the perceptions of childhood obesity in Mississippians by educational status it was found that those of different educational levels have similar opinions about the seriousness of childhood overweight being a problem. About 72.2% of respondents with four years of college or higher education view childhood overweight as a very serious problem, while 71.9% of those with lower levels of education (some college, high school graduates, and those with less than a high school diploma) view it as a serious problem. About 25.3% of respondents with four years of college or higher education view this as somewhat serious compared to 21.9% of respondents with lower educational levels.

When examining the perceptions of childhood obesity in Mississippians by BMI, more obese (74.6%) and overweight (72.7%) Mississippians view childhood overweight as a very serious problem than respondents who have a normal weight (68.2%). Interestingly, those who were categorized as underweight had the highest belief that childhood overweight was a very serious problem (81.3%). About 20.8% of obese respondents view this as somewhat serious compared to 27.4% of respondents with normal weight. Only 32.5% of parents with children under the age of 18 were very concerned about their children being or becoming obese or seriously overweight. This finding suggests that parents are less concerned about overweight in their own children.

When comparing the perceptions of childhood obesity for Mississippians with the nation, Mississippians' responses on the survey questions agreed in direction with many of the responses from the national survey (Harvard); however, some opinions differed in

strength of belief from those in the national survey. Mississippians tended to respond more favorably toward many of the initiatives presented. For example, Mississippians were more favorable to the following: the government playing a significant role in reducing child obesity (56%) than the nation (38%); laws to limit vending machines in elementary, middle, and high schools (78.5%, 77.5%, 73.4%) than the nation (71%, 67%, 59%); law requiring BMI assessments for children in schools (66.4%) than the nation (51%); law taxing soft drinks and use the money to fight child obesity (58.9%) than the nation (50%); and, law requiring fast food restaurants to post nutritional information (84.8%) than the nation (79%).

Conclusion

Results indicate that there is widespread recognition of the problem of childhood overweight in Mississippi. Mississippians have varying levels of concern and interest in how to address this problem. Mississippians tended to be more favorable than the nation to many of the suggested initiatives related to reducing child overweight. For example, there was a 15% (66.0%, Mississippi and 51%, national) difference for the support of requiring the BMI assessment. Also, there was approximately a 9% difference (58.9%, Mississippi and 50%, national) for the support of taxing soda and soft drinks and using the proceeds to fight obesity. The finding that only 32.5% of parents with children under the age of 18 were very concerned about their children being or becoming overweight/obese is supported by research indicating that parents often do not recognize

that their child is overweight. This information is particularly important because it supports the need for public policy interventions.

Reducing child overweight will require steadfast commitments to data driven, fully funded, comprehensive and broad-based initiatives. To inform initiatives, Mississippians need more research data on the problem itself, as well as on the associated problems of overweight. While more research is desperately needed, initiatives and practices to address overweight do exist and can be used in Mississippi. To accomplish these initiatives will require the development of long-term strategies and interventions based on solid evidence and best practices. Intervention based on data and best practices must then be evaluated, using indicators such as changes in prevalence data, and those results should be used to further improve the interventions and initiatives in Mississippi. Formulation of health policies and effective interventions are imperative.

As with most surveys, potential sources of error were present in this study. These include sampling error (with only a sample of 1,352 Mississippians used to represent the whole state). Also, sources of measurement error may be due to problems in the wording of questions, question order, interviewer effects, or the reliability of the respondents to answer truthfully.

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References

1. American Medical Association. Expert Committee Recommendations on the Assessment, Prevention, and Treatment of Child and Adolescent Overweight and Obesity. Available at: <http://www.ama-ssn.org/ama/pub/category/17674.html> Accessed: August 24, 2008.
2. National Center for Health Statistics. Washington DC: Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics, United States, 2003.
3. Ogden CL, Carroll MD, Curtin LR, et al. Prevalence of overweight and obesity in the United States, 1999-2004. *JAMA* 2006;295(13):1549-1555.
4. Ogden CL, Flegal KM, Carroll MD, et al. Prevalence and trends in overweight among US children and adolescents, 1999-2000. *JAMA* 2002; 288(14):1728-1732.
5. NHANES data on the Prevalence of Overweight Among Children and Adolescents: United States, 2003-2004. CDC National Center for Health Statistics, Health E-Stat. Available at: http://www.cdc.gov/nchs/products/pubs/pubd/hestats/overweight/overwght_child_03.htm. Accessed: June 15, 2008.
6. Kolbo JR, Penman AD, Meyer MK, et al. Prevalence of overweight among elementary and middle school students in Mississippi compared with prevalence data from the Youth Risk Behavior Surveillance System. *Prev. Chronic Dis.* 2006 Jul; 3(3):A84. Epub 2006 Jun 15. Available at: [http://www.ncbi.nlm.nih.gov/pubmed/16776885?ordinalpos=&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_Results_Panel.SmartSearch&log\\$=citationsensor](http://www.ncbi.nlm.nih.gov/pubmed/16776885?ordinalpos=&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_Results_Panel.SmartSearch&log$=citationsensor). Accessed: June 15, 2008.
7. Mississippi State Department of Health. Mississippi's 2003 Youth Risk Behavior Survey summary of findings. Jackson: Mississippi State Department of Health; 2004. Available at: <http://www.msdh.state.ms.us/msdhsite/static/resources/1204.pdf>. Accessed: July 27, 2008.
- 8 Daniels SR, Arnett DK, Eckel RH, et al. Overweight in children and adolescents: Pathophysiology, consequences, prevention, and treatment. *Circulation.* 2005; 111:1999-2012.
9. American Diabetes Association. Type 2 diabetes in children and adolescents. *Diabetes Care.* 2000; 23:381-389.
10. Carroll CL, Bhandari A, Zucker AR, et al. Childhood obesity increases duration of therapy during severe asthma exacerbations. *Pediatric Critical Care Medicine.* 2006;7:527-531.

11. Marcus CL, Pawiak DB, Ludwig DS. Childhood obesity: public health crisis, common sense cure. *Lancet* 2002;360:473-482.
12. Ebbeling C, Pawiak D, Ludwig DS. Childhood obesity: public health crisis, common sense cure. *Lancet* 2002; 360:473-82.
13. Yanovski JA. Pediatric obesity. *Reviews in Endocrine and Metabolic Disorders*. 2001; 2: 271-383.
14. Philippas NG, Lo CW. Childhood obesity: etiology, prevention, and treatment. *Nutrition in Clinical Care*. 2005; 8 (2):77-88. 2005.
15. American Academy of Pediatrics. Prevention of pediatric overweight and obesity. *Pediatrics*. 2003; 112:424-30.
16. Cameron JW. Self-esteem changes in children enrolled in weight management program. *Issues in Comprehensive Pediatric Nursing*. 1999;22: 75-85.
17. Davison K Birch. Weight status, parent reaction, and self-concept in five-year-old girls. *Pediatrics*. 2001;107.
18. Strauss R, Pollock H. Epidemic increase in childhood overweight, 1986-1998. *JAMA*. 2001; 286:2845-2849.
19. Snethen, J. Broome, Marion, Cashin S. Effective Weight Loss for Overweight Children: A Meta-Analysis of Intervention Studies. *Journal of Pediatric Nursing*. 2006; 21(1):45-56.
20. World Health Organization. Report of a WHO consultation on obesity. Obesity: Prevention and managing the global epidemic. Geneva: WHO; 1997.
21. National Health and Medical Research Council. Acting on Australia's Weight: A strategic plan for the prevention of overweight and obesity. Canberra: Australian Government Publishing Services; 1997.
22. National Health and Medical Research Council. Dietary Guidelines for Children Adolescents in Australia. Canberra: NHMRC; 2003.
23. Caroli M, Lagravinese D. Prevention of obesity. *Nutr. Res*. 2002; 22:221-226.
24. Hill JO, Wyatt HR, Reed GW, Peters JC. Obesity and the environment: where do we go from here? *Science* 2003; 299(5608):853-5.
25. Hill JO, Peters JC. Environmental contributions to the obesity epidemic. *Science* 1998; 280(5368):1371-4.

26. "History of the President's Council on Physical Fitness and Sports: 1953-2002." The President's Council on Physical Fitness, U.S. Department of Health and Human Services. Available at: http://www.fitness.gov/about_history.htm. Accessed: June 17, 2008.
27. The Trust for America's Health: F as in Fat: How Obesity and Policies are failing in America. 2006. Available at: <http://healthyamerican.org/reports/obesity2006/>. Accessed: August 17, 2008.
28. What's We Can!?" U.S. Department of Health and Human Services, National Institutes of Health. Available at: <http://www.nhlbi.nih.gov/health/public/heart/obesity/wecan/wahts-we-can>. Accessed: August 27, 2008.
29. Oliver J., Lee T. Public opinion and the politics of America's obesity epidemic. Cambridge MA: Harvard University, Kennedy School of Government, 2002 (working paper RWP02-017).
30. Evans W, Finkelstein E, Kamerow D, et al. Public Perceptions on Childhood Obesity. *Am J Prev Med* 2005;28(1):26-32.
31. Harvard School of Public Health. Obesity as a public health issue: a look at solutions. Report on a national poll conducted by Lake, Snell, and Perry. Harvard Forums on Health. Cambridge MA: Harvard School of Public Health, 2003.
32. American Public Health Association. American's attitudes on fighting obesity: summary of study findings. Report by Widmeyer Polling & Research. Washington DC: American Public Health Associations, 2003.